

ABSTRACT

Title of Document: THE INTERFACE BETWEEN TOWN AND
LANDSCAPE: A Cooperative Winery and
Farmers Market

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Associate Professor, Department of
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This thesis addresses ways to provide a visual experience through a sequence of spatial experiences placed within the landscape; in particular to strengthen the relationship between man and his surroundings. It focuses on the importance of spaces between the architecture, as opposed to just the buildings themselves. In studying the connections between spatial and visual forces, this thesis explores how the buildings interact to contain the landscape. In Oregon along the Columbia River, small wineries have thrived among the regions agriculture. This thesis proposes the design of a winery for Troutdale, a small town outside Portland. Troutdale provides opportunities to strengthen the connection between community and the larger environment. In addition, a farmers market will be the interface between the town and the surrounding landscape. Looking critically at where program elements are situated on the site to maximize the variety of uses and their direct connection to the landscape.

THE INTERFACE BETWEEN TOWN AND LANDSCAPE:
A Cooperative Winery and Farmers Market

By

Shawna Christine Grant

Thesis submitted to the Faculty of the Graduate School of the
University of Maryland, College Park, in Partial fulfillment
of the requirements for the degree of
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“Physical forces are real. Things like weight, motion, or the impact of a punch can be measured with scales or rulers. Visual forces are different...they are those things felt by the eye alone.”¹

—Martinez, Benjamin. Visual Forces

In order to experiment with the relationship between things, objects or two-dimensional compositions, a process needs to begin with simple balancing within a given field. The exploration started with three black shapes composed on an eight and a half by eleven sheet of white paper. The exercise created an opportunity to explore center, edge, visual tension and grouping relationships. In these following figures the ‘center’ of the field is not marked, but we can judge where that point lies in relation to where the black square is placed, such as the square is above the center of the field. The result is a visual tension between the object and the perceived center. In a work of art all elements are distributed in such a way that a state of balance results, regardless of symmetry.

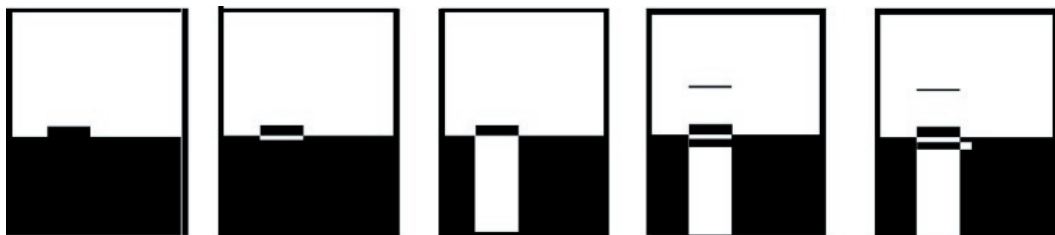


Figure 1_ Figure ground compositions of two-dimensional movement

¹ Martinez, Benjamin. Visual Forces

As more figures are added to the field of forces, various relationships start to emerge. This field of forces has an internal structure, with centers of attractive and repulsive forces.

A group of German physiologists working in the early part of this century, were interested in how information is taken in by the senses and organized by the brain. One theory drawn from these observations was the idea of the gestalt. The basic premise of gestalt is, "that a visual event is something different from the sum of its parts. The pieces interact and the interaction changes them".² By experimenting with simple figure ground relationships, the compositions slowly become a dynamic interaction of pieces. As one piece is added or subtracted the overall is changed by these new relationships. The static becomes movement; the center becomes re-centered. The concept of gestalt is important because it demonstrates that the eye and brain work together to organize sights, sounds, and events into a total experience. This thesis is designing an experience through buildings and the spaces in the landscape that the buildings form, so the idea of the gestalt is important because it is all the structures that are forming the total experience.

The following physical model is a relief of the above two-dimensional compositions. Buildings are three-dimensional so the obvious progression of this exploration was to interpret the compositions. The principles of edge, center,

² Martinez, Benjamin. Visual Forces. Pg. 7

balance, depth and movement were the basis of the interpretation. The three-dimensional model shows how forms can project space from one form to the next. Spatial interactions develop between forms creating tensions and visual forces that the observer is maybe unaware of during the experience. The spatial forces created between forms are just as real as the solid forms themselves. Like the black and white compositions, is the void creating the space or is the solid forming the void?

“An artist has to be conscious of these differences and know at the same time that visual forces are, in a way, as real as physical ones.”³

_Martinez, Benjamin. Visual Forces

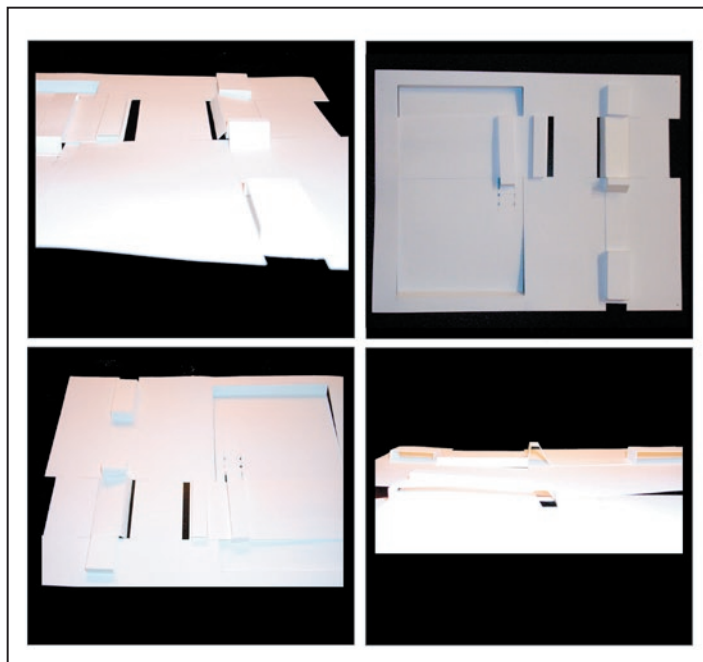


Figure 2_ Relief model of two-dimensional compositions

³ Visual Forces: An Introduction to Design pp.2

In the simplest form of the definition, wine is the transformation of sugars of a grape into alcohol through the natural yeasts on the skins of the fruit. To understand the culture that will influence a co-operative winery, it is important to understand the agricultural process itself. While there are many ways to look at a wine process, whether it is a white or red wine, the simplest example is like a conveyor belt, in which grapes arrive on one end and a bottle of wine is produced at the other.

The viniculture begins with the land in which the grapes are planted. Everything from south facing slopes chosen to promote proper drainage and sun exposure, to the details of deciding when to harvest and pick the vines are all vital to the process before the grape enters the winery. When man or machine picks the grapes, the viniculture process ends and the production phase begins. The first phase begins with a de-stemming and crushing machine, this releases the juice from the skin and the fermentation is initiated. The de-stemming machine works by separating the grapes from their stem with a rotating drum with grape-sized holes in it. After the crushing, the white and the red grapes are separated for their various processes. Whites undergo pressing

and the reds go directly to the fermentation tanks. By putting the grapes juice into containers at the right temperature, the yeast will turn the sugars into alcohol. Many wineries then transfer the wine within a specific timeframe to oak barrels for the remainder of the fermentation cycle, to age for up to six-weeks. There are varied lengths of the aging process, called maturation, depending on the type of wine and the vintners wine making practice. The barrels, whether oak or steel, are racked on their side to allow for particles to settle to the bottom. And, the last stage before tasting is bottling which takes place in a chilled, and sterile environment. Filtering and centrifuging are often used during the bottling phase. Each step of this long process contains hundreds of variations depending on the vintner.

The Oregon Wine Landscape

*“Viticulturally, Oregon is a big state. There’s a lot of room to grow grapes in the Columbia Valley, Walla Walla, Columbia Gorge, southern Oregon, and the Willamette Valley, although, the north part of the valley is getting harder to find land to plant. A lot more of the blanks are beginning to fill in, and I’m sure there’ll be vineyards planted in Oregon we don’t know about yet that will be just phenomenal.”*⁴

—John Albin

There is a wide variety of terrain in Oregon and grape growers have used the regions climatic conditions to their advantage. There are about three different types of larger wine

⁴ Clarke, Oz. New Encyclopedia of Wine. Pg 12

regions in Oregon, due to various soil and climate conditions, however, there are more particular sub-areas within the larger regions. The Columbia Valley and Gorge, Willamette Valley, and Southern Oregon are the main regions. Troutdale sits on the edge of the Columbia Gorge wine region, which is in the foothills of Mount Hood. Since there is a growing concern with a lack of open land to plant on in the northern valley, this thesis site could give back and repair some of that landscape for vineyards. Instead of dominating the Troutdale site with an over programmed wine complex, there is an opportunity to separate the program into smaller buildings and program a working landscape. A working landscape could consist of planted vines, trees, and native seeds. So, the working landscape would be forming other outdoor spaces to be programmed for the winery or community events.

“Oregon lacks the arrogance that you sometimes see in other wine regions. We’re much more open, more spirited in that we listen to each other. There is a lack of pretense in Oregon. We’re here for the quality of life and because we think this is an amazing growing region.”⁵

—Ron Penner-Ash

This ‘lack of arrogance’ is what separates Oregon’s wine culture from parts of California’s wine culture, and creates a unique collaborative environment between vintners. This

⁵Miglavs, Janis. *Oregon The Taste of Wine*

collaborative environment has propelled small boutique wineries to come together and share one wine producing facility, as a co-operative business. A co-operative winery allows for less overhead, so the small boutiques can share their production costs with five to ten other winemakers, making their wine cheaper to produce without affecting the wine's quality. Another reason to find the right slope to plant on is to protect vines from frost. When a cold front moves through hills, cold air drains off. The cold air sheds down the slope and as it flows down, you get a bit of friction enough to get a little heat from the moving air that will prevent frost.

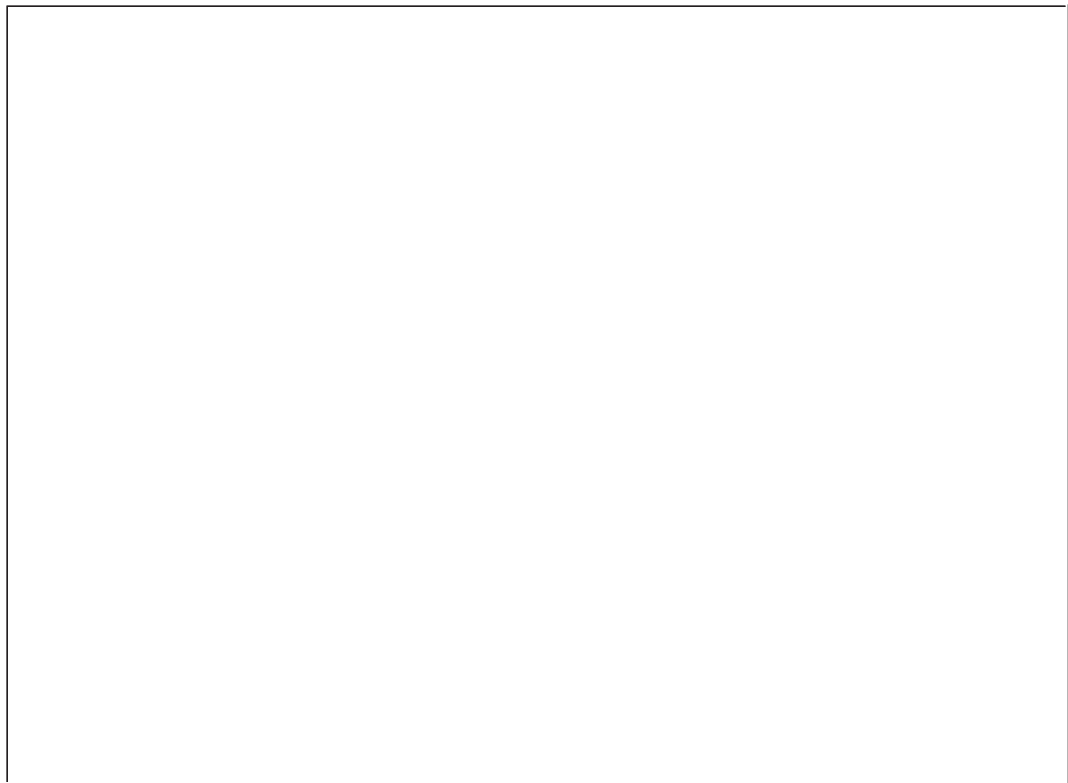
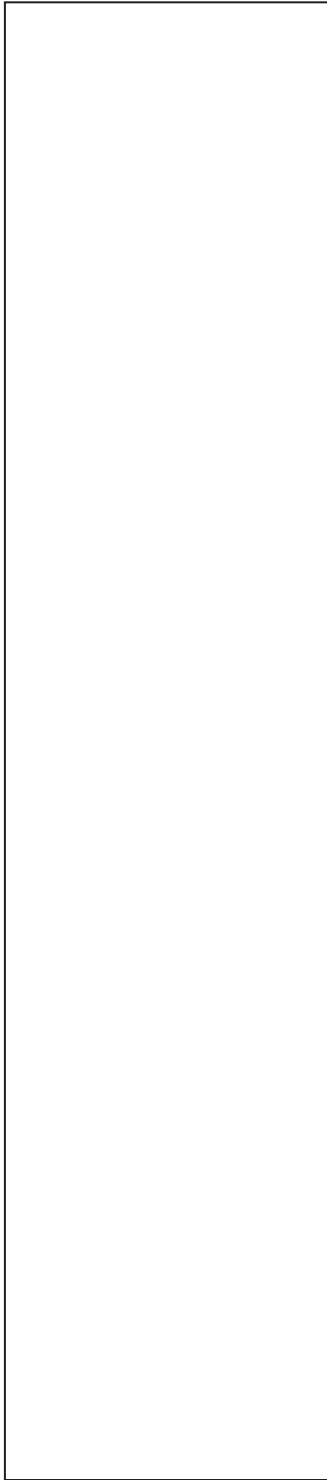


Figure 3_ Oregon Wine Region

A Year in a Vineyard:



Harvest/Picking: September and October

Latest Oct. 20th

[This is the most important part of the process, deciding when to pick is what makes great wine.]

After Harvest: vines rest period

Organize Next Years Plantings: November

and December

Pruning: November to March

Buds Begin to Break: Mid-April

Vertically flip foliage wires: May to July

Vines Flower: June

Harvest: September 28

Figure 4_ The process of making wine, from harvest to bottling



Figure 5_ Google Map Aerial View of Washington and Oregon divided by the Columbia River

A Site of Opportunity Troutdale's History

Historically, pioneers like Lewis and Clark traveled down the Columbia River and headed up the Sandy River. From Troutdale they continued on south to the Willamette Valley by land. During the 1850's farmers began to settle in the land, and shortly after a businessman from Portland, Captain John Harlow, established a home in the area raising trout in the ponds on his property, eventually that gave the community its name. Several historic landmarks still exist today and are on the National Register of Historic Places. The Harlow House, Troutdale Methodist Evangelical Church up the hill from main street, the Train Depot on main street across from city hall, and the Edgefield Manor west of the main town. The Harlow House and the Church are preserved, the Train Depot is now a railroad history museum, and Edgefield Manor now a historic complex consisting of a brewery, hotel, herb garden, restaurants and a small winery.

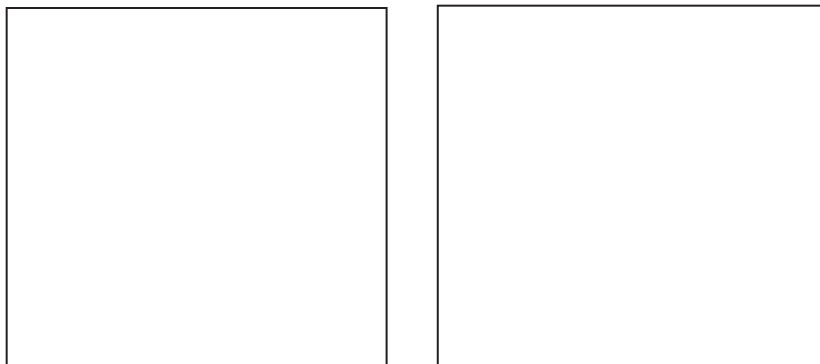


Figure 6_ Troutdale looking north towards the Columbia River Gorge and the Columbia River Historic Highway Bridge over the Sandy River –1923

Site Description & Analysis

Troutdale, incorporated in 1907, is a small city of about 10,000 residents located between the Sandy and Columbia River's with in the eastern boarder of the Portland Metropolitan area. Troutdale is home to many Portland commuters. The site is located 16 miles east of downtown Portland, Oregon, along the Columbia River that separates Washington State from Oregon. A small town built along the Sandy River, a branch river that flows into the Columbia River, borders the eastside of town. The east-west Highway 84 is the main thoroughfare linking Troutdale to Portland. The Troutdale area is the gateway to the Columbia River Gorge



Figure 7_ The town of Troutdale is just beyond the Portland suburbs, located along the Columbia River

Scenic Highway and the Sandy River Canyon recreational areas. This original two-lane highway runs directly through Main Street and once was the main highway running up the Gorge, but now the historic town is by-passed by highway 84. The Union Pacific also runs through the city just north of the original main street parallel to the 84 freeway. Currently the four by four block street grid, originating in 1951, still exists as the main center of Troutdale. The Columbia River Scenic Highway passed these 200-foot square blocks of the main town center, turns south at Depot Park along Beaver Creek, crosses the bridge over Sandy River and significantly climbs northeast up a steep grade to the surrounding agricultural fields and scenic area.

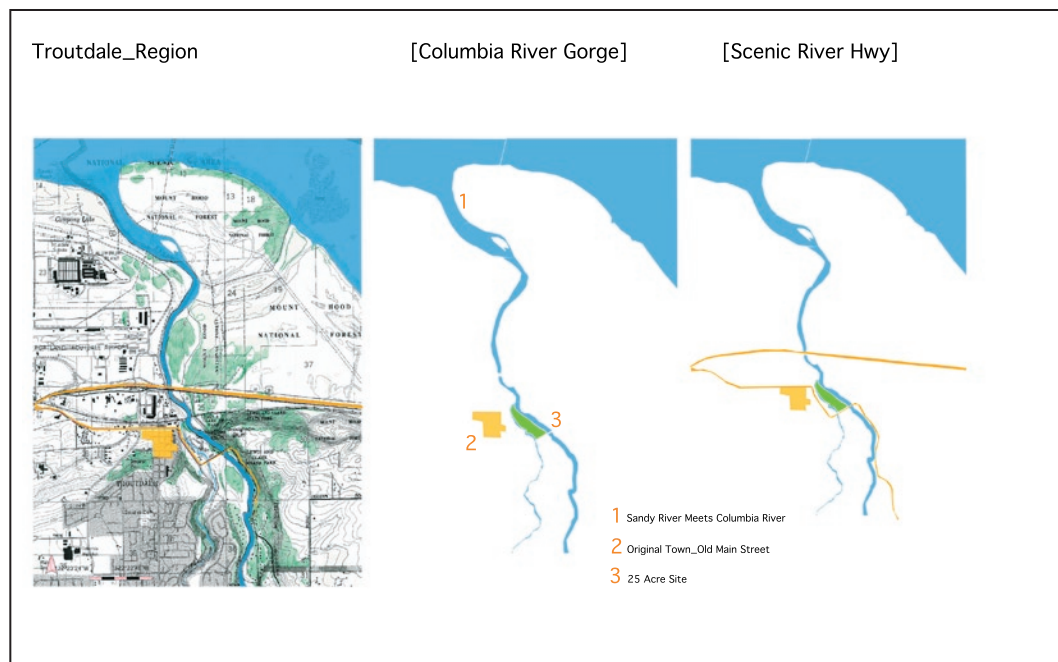


Figure 8_ Columbia River Historic Highway begins in Troutdale and heads east up the river gorge

The specific site being explored is located along the Columbia River Scenic Highway bound between Beaver Creek and the Sandy River, both, which are running parallel to the highway. The northern tip of the site is Depot Park, location of the historic train depot, and the southern two-thirds is an existing travel trailer campground. The only existing entry to the site is a small bridge crossing over Beaver Creek. Buffered by trees along Beaver Creek protect the western edge of the site from historic highway traffic. The southern edge is another possible entry to the site. Where the City's Comprehensive Land Use Plan, based on the regions 2040 Growth Concept, proposes a neighborhood commercial center along the existing park to the south. The goal is to

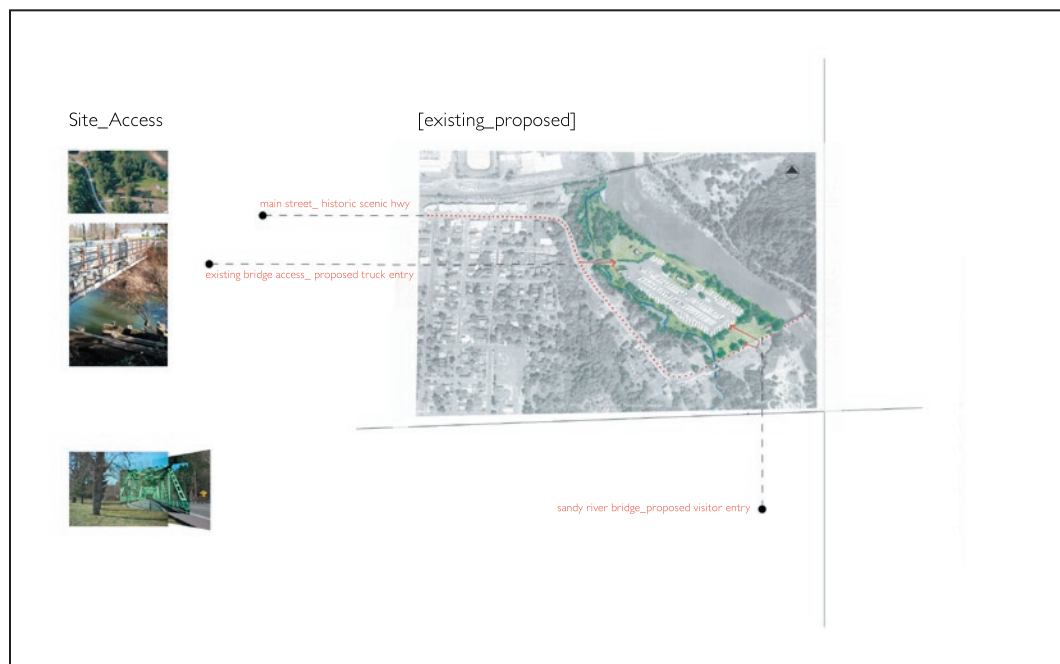


Figure 9_ Existing site access

enhance less desirable areas and encourage maximum livability with higher density along the historic highway. The additional neighborhood center encourages a mix of commercial and industrial development to provide an economic base for the city. Providing proper relationships between residential, commercial, industrial and open space land uses with a coordinated transportation and circulation systems that will bring people to places of live, work and play. There are opportunities for the site to facilitate these connections between a new neighborhood center south of the site to the main street center north of the site. The bounding pink line represents the planning boundary established in 2008. The updated Community Development Plan highlights the main street and the adjacent neighborhoods as a historic

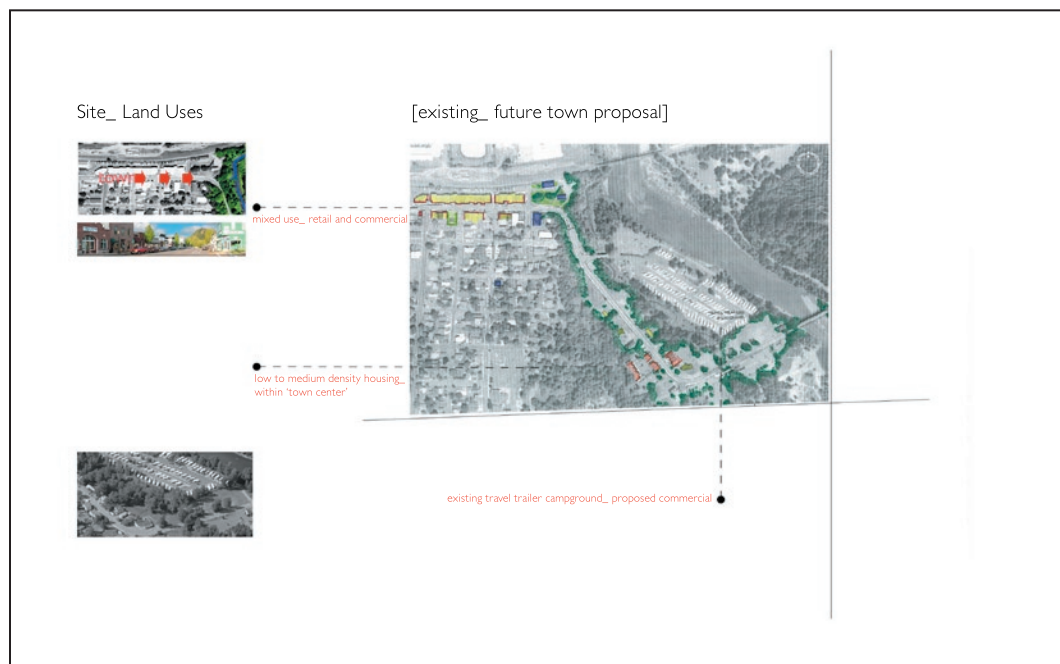


Figure 10_ Land use map and diagram

town center district. The vision for this district includes infill mixed-use along Main Street, and a gradient of attached to detached single family housing radiating from central Main Street. There are significant greenways throughout the town, however the facilities management have indicated larger trail loops that would connect existing parks with future neighborhood park systems. The proposed trail in orange shows a connection to the site along the Sandy River to large natural areas north of town along the Columbia River. The proposed trail also connects with the regional 40-mile trail loop, establishing a connection between the town and the region. The City's Parks Plan, adopted in 1984, designated the Beaver Creek and Sandy River corridors as a public

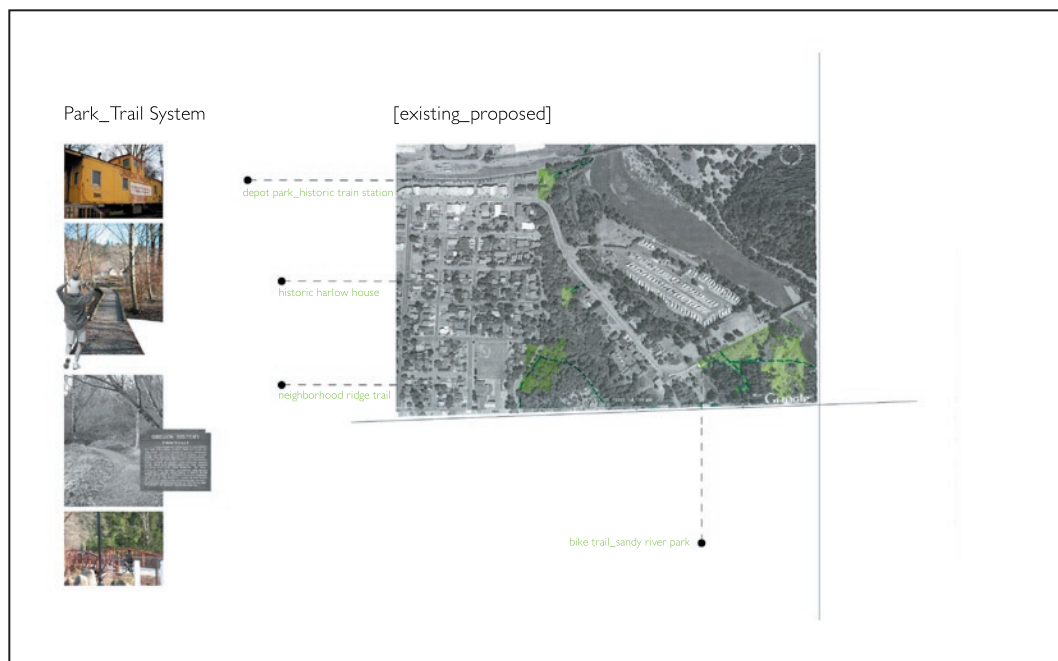


Figure 11_ Park and trail system that is adjacent to the site

open space/greenway system. The extensive park system is a rich opportunity for the co-operative winery and farmers market site to rely on bike and foot traffic, as well as make strong community connections.

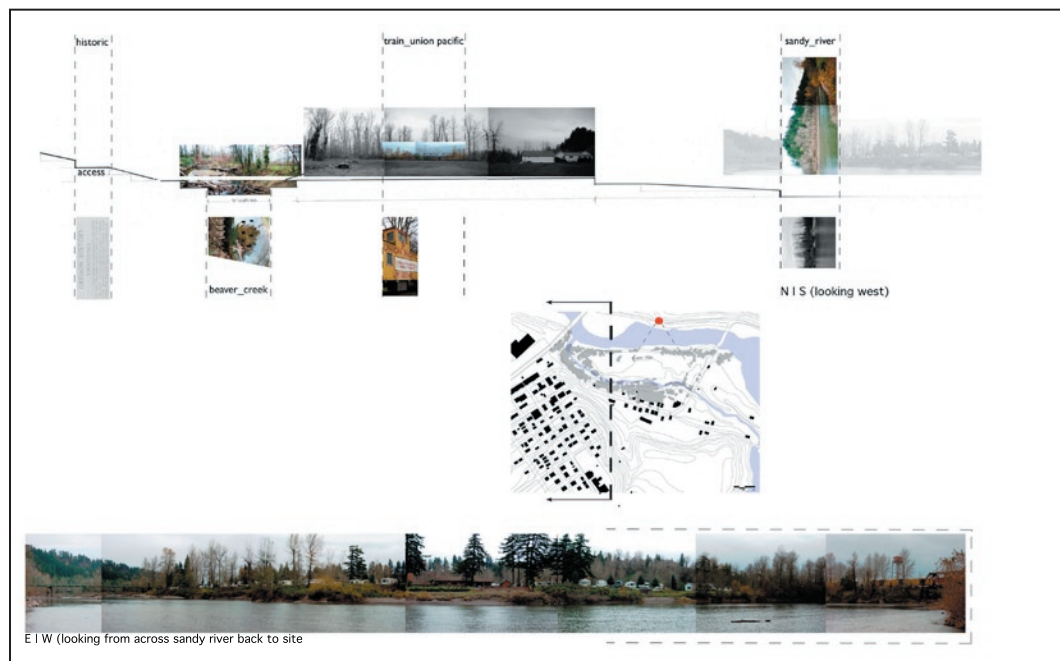


Figure 12_ East-west site section looking north, showing Beaver Creek and the Sandy River.

Figure 13_ South elevation of storefronts on Main Street looking uphill towards the historical church.

Figure 14_ City park on the south side of Main Street.



Figure 15_ North elevation of retail store fronts on Main Street.



Figure 16_ Panorama of the Sandy River views, to the north the Union Pacific rail bridge and east across the river the Lewis and Clark Park

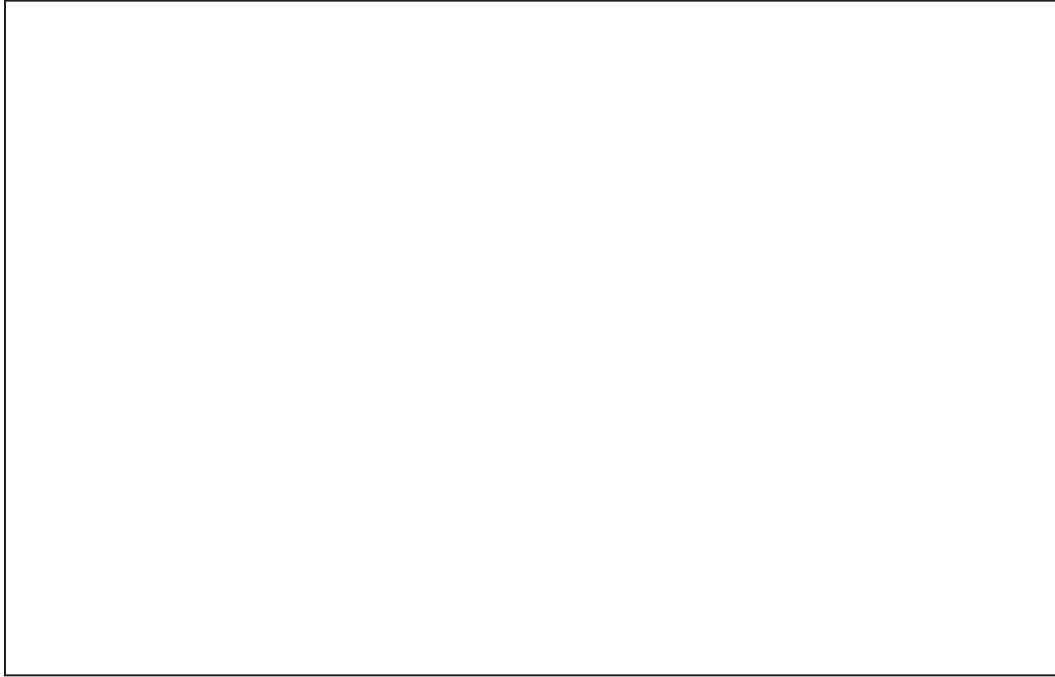


Figure 17_ Visual diagram of the two primary program elements

Preliminary Program Requirements

Winery use space:

Production Facilities	
Grape intake space	800sf
De-stemming/Crushing balcony	2,500sf
Fermentation room	4,000sf
Maturation cellars	3,500sf
Bottling room	3,000sf
Collaborative wine testing room:	1,000sf
Wine Process Exhibit:	500sf
Machinery and Mechanical storage:	2,000sf
Offices:	1,000sf
Staff Toilets	100sf
Dinning hall with patio:	750sf
Kitchen	150sf

Community use space:

Open-air farmers market	3,000sf
Event spaces:	
Wine Tasting Bar	900sf
Event House	600sf
Viewing Tower	300sf
Outdoor amphitheater	

Total: 23,600sf

Winery Production Requirements

Grape Intake Space

- Adjacent to de-stemming and crushing machines
- Trucks need to unload

Crushing/De-stemming Platform

- Access from vineyards or unloading area
- No cover required
- 3-4 feet high for optimal unloading

Fermentation

- Minimum of 12-foot ceilings
- 2 rows of 6 tanks, 6' diameter
- Generous circulation between rows
- Room must drain for floor cleaning capabilities
- Controlled humidity and temperature

Testing Studio

- Workspace with wet sink and dishwasher
- Access to fermentation
- Minimum 12-foot ceiling

Barrel Aging and Storage

- Constant temperature of 58 degrees
- Access to fermentation and exterior with a 10-foot min. roll up door

Bottling

- 50-foot semi-trailer accessible
- No cover required
- Adjacent to aging cellars

Mechanical and Utility Space

- 15% of net area
- Includes: electrical service, water filtration, heating pumps, fans and furnaces
- Machinery storage: tractors and/or trailers

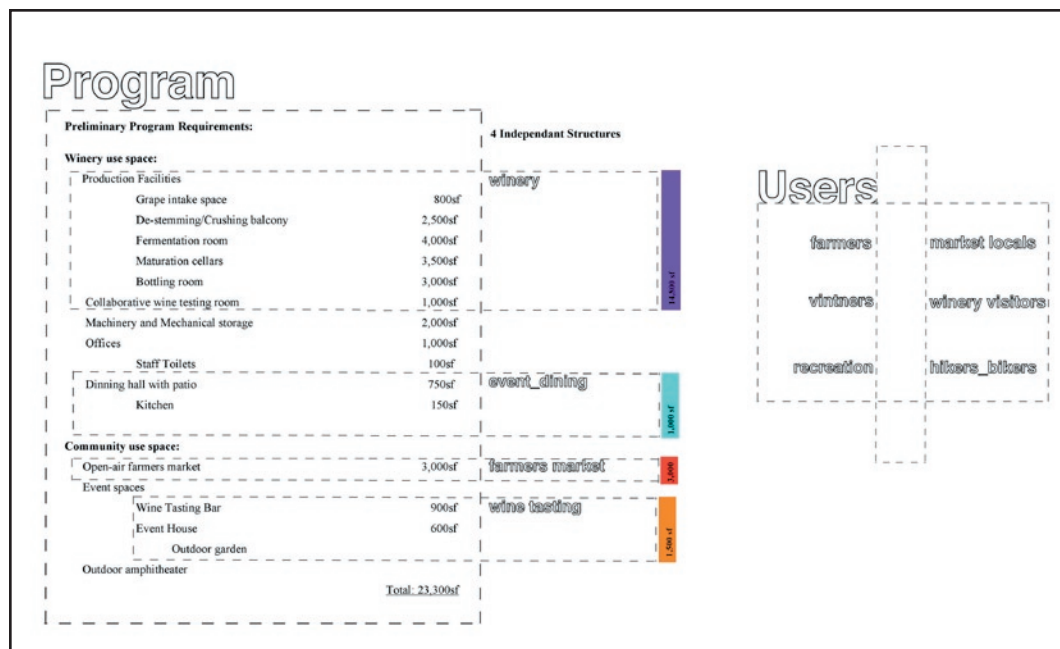


Figure 18_ Diagram of program divided into four smaller buildings and the various user groups for each program element

Program Typologies

This site addresses two conditions, which have a direct impact on the program. One being the proximity to the old historic highway and Main Street; second the natural condition of the river, creek, and ground cover. The program also needs to address two conditions, the industrial workings of a winery and the interface between the community and the end product, wine. And, because of this community interface there is an opportunity to provide a farmers market for the local farmers to provide regional grown food. In order to combine these two user groups and site conditions 4 buildings typologies were examined to extract key principles.

Bodegas Julian Chivite Winery, Spain

A large tasting room with fireplace, grape intake room, bellow ground wine cellars and production facilities of the fermentation rooms, aging barrel 350- foot- long hall with visitor catwalk, sky-lit bottling room and walled ship-



Figure 19_ Aging cellar and visitor catwalk (bottling near tasting room)

ping dock. Rafael Moneo's 110,000 square-foot winery design is a good example of creating a procession through the winery, to allow for visitors to view the process beginning in the terrain and for the linear grape to wine process to flow in a natural manner. He also conceived of the building as a backdrop to three historical structures, a mansion now a four-room hotel, the stone tower for the estate caretaker and restoring a chapel with newly planted grapevines.

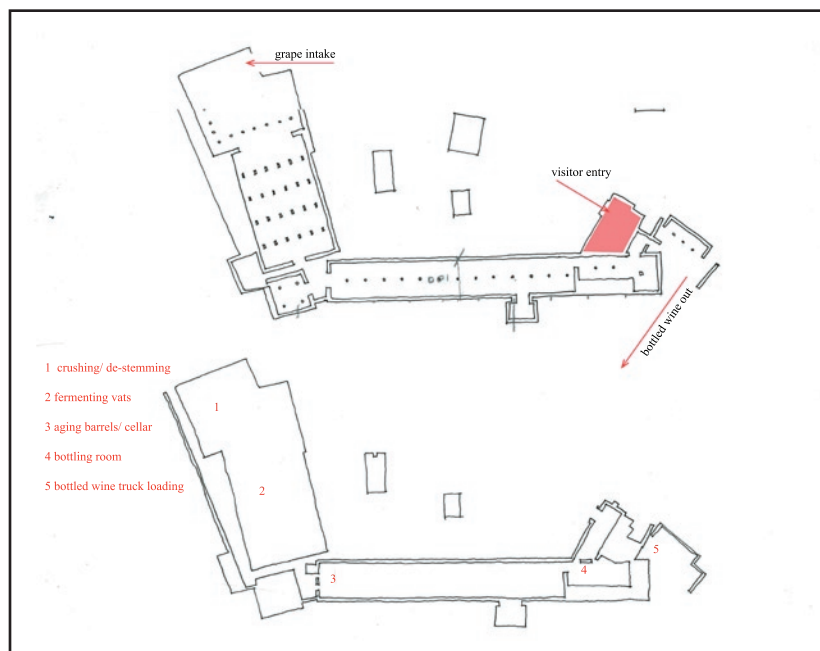


Figure 20_ Diagram of the visitors promenade verses the progression of the wine process

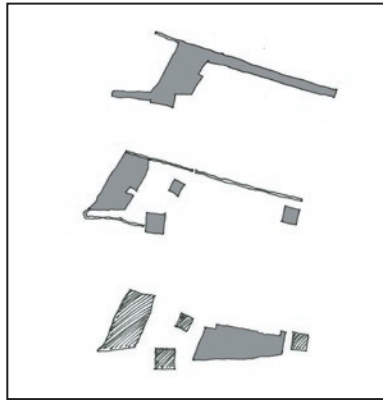
Weingut am Stein 'WeinWerk', Germany

Building 1: A wine tasting bar and seminar room. Building 2 (largest): Wine ageing cellars, the treasure chamber for clients to store their wines and intimate dining room for clients and their guests. Building 3: The cookhouse. Building 4 (smallest): A one room event room and outdoor garden.

The structure housing the tasting bar and seminar room is the newest addition to the other three historic estate buildings, designed by a German architecture firm Hofmann Keicher and Ring in 2005. The important lesson in this project is the strategic placement of buildings along this vineyard hill. The space between the small tightly programmed buildings is the designed landscape that makes the compound work as a whole. It is not the individual pieces that matter so much, but the gestalt of the whole, how the parts work in unison.



Figure 21_ One room event space with outdoor patio



Figure_ 22
Placement of buildings to stonewall site enclosure

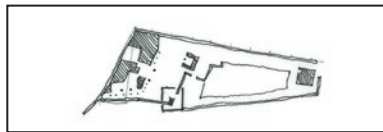


Figure 23_
Buildings relationship to adjacent gardens and patios

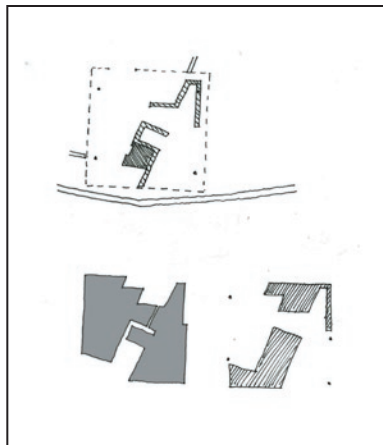


Figure 24_
The new addition to the estate is a small square building for wine tasting and seminars. The service and vertical movement core separates the entry space from the intimate wine bar diagonally on the other side.

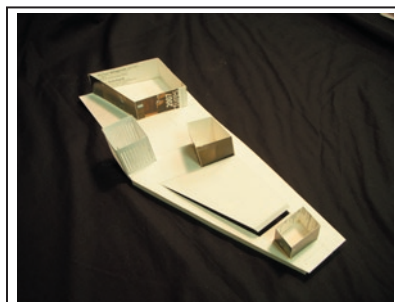


Figure 25_
Study model of four small buildings that form this site. The buildings capture spaces between the buildings for different functions. A primary hard surface for large events and a grass courtyard for smaller events.

Carlton Winemakers Studio Cooperative, Oregon

Gravity-flow wine facility; de-stemming/crushing platform, fermenting balcony and ageing cellars. Tasting bar, offices, testing studio, event room in wine cellar, grass parking lot for festivals and an indoor climbing wall.

This 16,000 square-foot sustainable cooperative winery is home to ten boutique vintners whom all share the facilities at various rotating times. Sustainable winery design in this case lead to a practical organization of the building it's self. The designers built up a brume on the south side of the building and tucked the cellars adjacent to the fly-ash concrete walls. In effect the cellars do not require cooling, because the burm is blocking the sunlight from the building and the earth naturally cools the space. Gravity was used to this wineries advantage by locating the building on a slight south slope in order to unload the grapes from the back of the building directly on to the second floor



Figure 26_Fermenting room is well lit by high louvered windows

crushing platform. From there the crushed and de-stemmed grapes get moved to the fermentation vats that are situated on the first floor, but reach to the second floor for transferring the grapes. This multi-level design allows daylight to penetrate clerestory windows and provide light to even the subterranean levels. A passive ventilating system allows the building to let hot air, accumulating throughout the day, to exhaust through a louvered clerestory and bring in fresh cool air through a lower louver.

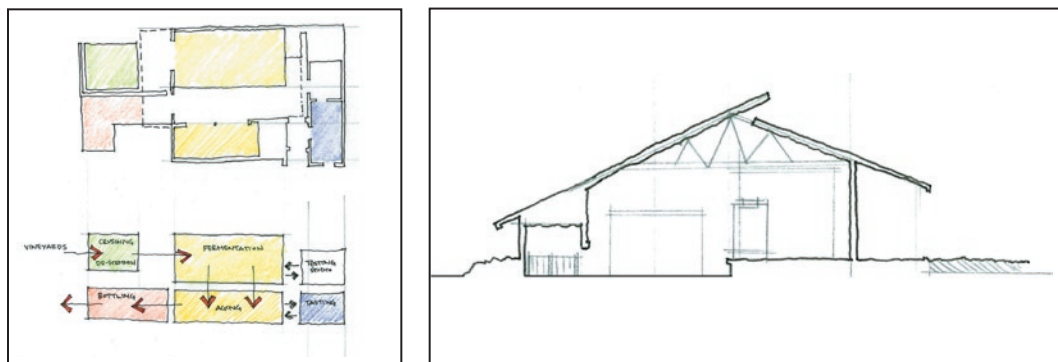


Figure 27_ Program diagram of a gravity-flow wine process.

Figure 28_ Section of fermenting balcony in relation to aging cellars and bottling level

Pike Place Market, Seattle

Pike Place Market is situated in downtown Seattle along a steep hill overlooking the inlet and the shipping piers. Although this market is in an urban setting the design acts as an edge to the street and the landscape of the hill. The building is a transitional space between these two conditions, urban and landscape. The linear organization of the pavilion and the corner entry is important in holding that edge. This precedent may provide a way to mediate between the historic highway/city park visitors and the landscape that makes up the remainder of the site. Therefore the movement through the linear pavilion is critical to the success of the building.



Figure 29_ North 500-foot long vendor pavilion and entry/ corner market

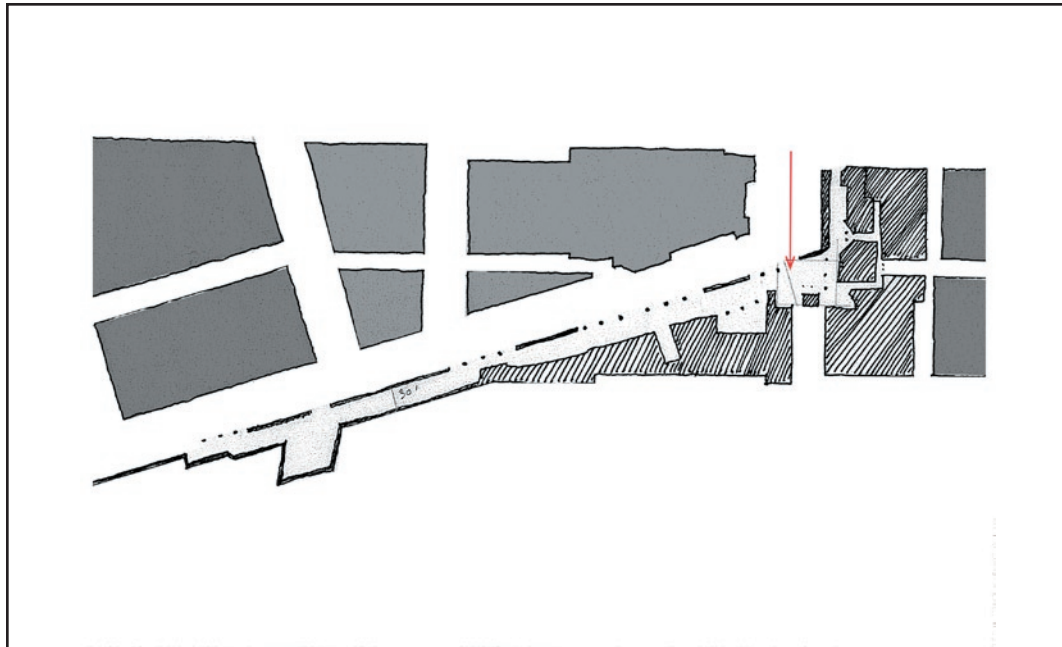


Figure 30_ Nolli plan of Pike Place Market, the pavilion is a thick linear

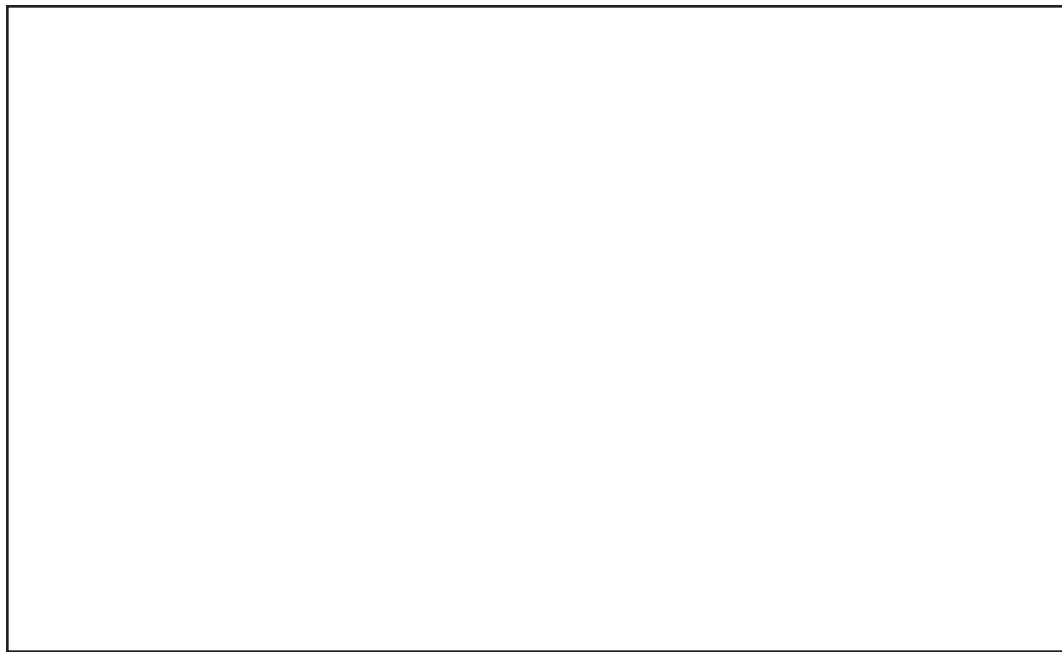


Figure 31_ SRG Partnership Architecture, Planning and Interiors, Seattle, Pike Place Renovation Project

Precedents

Minimum: Simplicity of Building | Maximum: Enhancing the Land

As a source of reference for the focus of this thesis, how buildings interact to contain landscape, I analyzed projects that had a multitude of small buildings with specifically a strong connection to the surrounding landscape. Studying how the buildings occupied a landscape while at the same time organizing the terrain. Six design principles have emerged out of the following precedents: Wesleyan University Creative Arts Center, MacKay-Lyon's House No. 22 and Hill House in Nova Scotia, the Canal House in Texas and the Mission Hill Family Winery in British Columbia.

Land: The buildings need to maximize their connections to the land, by enhancing and repairing the natural landscape.

Light: Exploring how the light of a specific region enlivens a space and animates materials.

Craft: Finding fresh solutions in the simplicity of industrial and agricultural buildings

Community: Rural communities are typically connected at a regional scale; mending together these increasingly fragmented communities will also help connect the livability of these regions. Spaces Between: "...blur[ing] the line between indoors and outdoors through spaces that expand

beyond their walls to form outdoor rooms. Spaces between buildings are as important as the buildings themselves.”⁶

Sustainability: Conserving and minimizing energy and natural resources create health buildings.

Creative Arts Center, Wesleyan University

An exploration into Kevin Roche, John Dinkeloo and Associates design for the Creative Arts Center reveals an approach that was sensitive to the existing landscape. As a precedent the arts center is comparable through a similar attention to separating the program and housed in smaller buildings to arrange around existing landscape, in this case preserving old growth trees. The program consisted of several recital halls, various sized theatres, an art gallery and art studios



Figure 32_ The arts center buildings in relationship to the landscape

⁶ Lake| Flato's website, vision <http://www.lakeflato.com/>

for the students. Limestone block walls and simple openings were used in tandem with pure formed buildings to contain the campus landscape. The structures have a formal organization with primary axis relating one important building entrance to another, and secondary axis moving past buildings, through their adjacent courtyards and leading to the larger university greens. Sky bridges or passageways were used to preserve existing axis and reinforce proposed axis, fitting seamlessly into the campus. Lower stonewalls projecting from the buildings themselves help to enclose the smaller art studio courtyards with overhead enclosure from tree canopies. In the example that courtyards were not being designed around the outdoor spaces, trees were used to create focal points for views either from expansive framed interior windows or points in the distance drawing your eye beyond the immediate landscape.

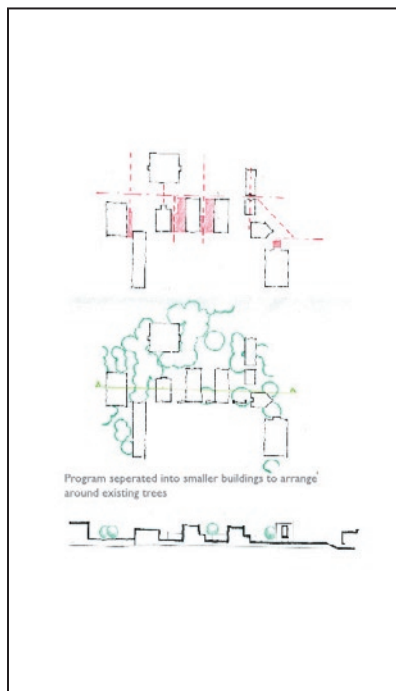


Figure 33_ Small structures organize the landscape into adjacent courtyards

House #22 on the Nova Scotia Coast

Brain MacKay-Lyons working in his native Nova Scotia landscape has built a series of houses responding to the climatic, cultural and regional conditions of this harsh Atlantic coast. Although this series of houses have been highly individualized there has also been an exploration of dwelling in a native terrain. House number 22, built in 1998, embodies the characteristics of box forms placed in the landscape. 'Placed' is the key word here because it is that of a skilled designer to create a spatial continuity from one structure, the landscape and another structure. Ultimately this links the two separate forms and elements together as a unified

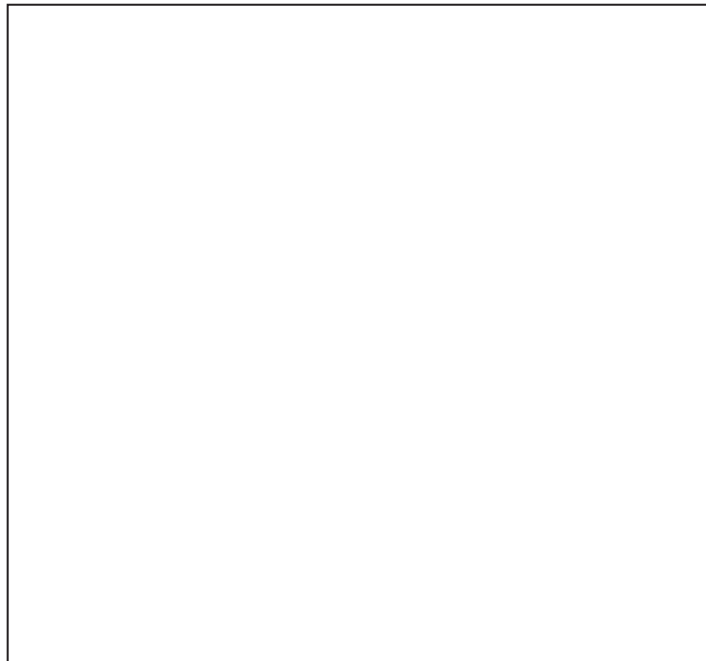


Figure 34_ Views showing the strong visual connection between the guest and main house

whole. He achieves a balance between indoor and outdoor relationships that assist with the spatial continuity. This project consists of two structures, one is the main house and the other is a small but identical guesthouse. Each house occupies the top of two hills separated by a wetland. South of Halifax the view from the site are north to the river and the southeast views of the sea. The approach is particularly important in this case because of the views that are revealed through the sequence and the idea of public and private landscape.

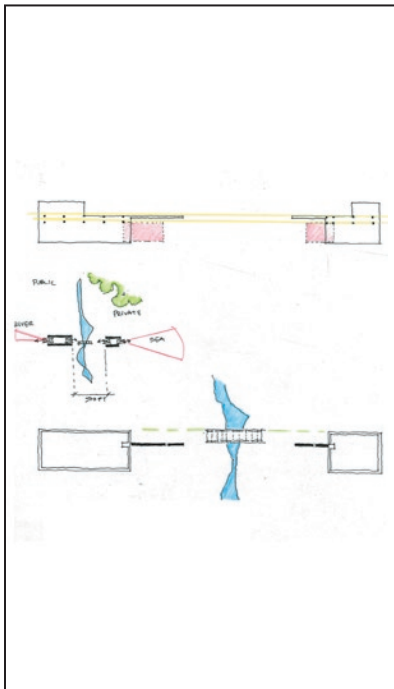
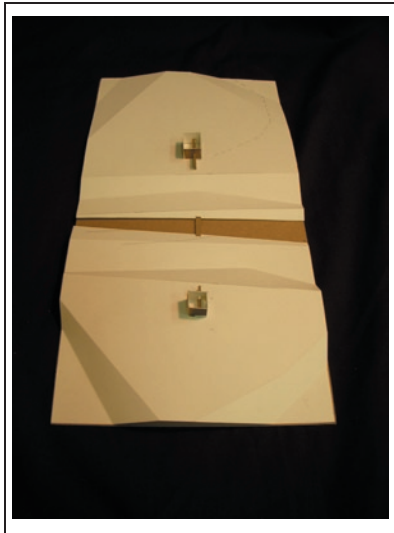


Figure 35_Study model

Figure 36_Diagram of spatial connections between a 500-foot distance

The initial approach is from a country road north and down hill to the site, the main house is the first form that comes in view as you climb the hill, this is what MacKay-Lyons diagrammed as the public side of the landscape. It is not until you reach the porch of the house that you turn to look east across the wetland to see the smaller guesthouse with an illuminated bridge marking the threshold between public and private. What differs in the private landscape is the tree edge is encroaching on the hill, making

it a spatially smaller hill. The trees beyond hide sauna/storage structure, built in the lowland of the wetlands.

As a precedent it is important to note that the distance between houses is 500 feet, which is a long distance the designer has chosen to control. A four-foot wide structural bay acts as a spine for interior vertical movement, a wall into the landscape and a roof scupper returning water to the wetlands. The eight-foot high wall extends past a patio, creating a wind block and out into the landscape aligning with the reciprocal guesthouse wall.

Hill House, Brain MacKay-Lyons 2004

“Ever changing with the region’s weather conditions, the landscape that occupies the space in between and beyond the buildings is framed from within.”⁷

These structures fit into the landscape by sliding in between two agriculture terraces bracketing the hilltop. This project, built in 2004, is particularly interesting because it uses a courtyard house typology; two low concrete walls form a protected garden while the barn and the house face each other and turn their backs to the harsh wind. The relationship between the two structures creates a third space. Similar to house number 22 MacKay-Lyon’s continues with experimentation of ‘the space between’, only opposed to the

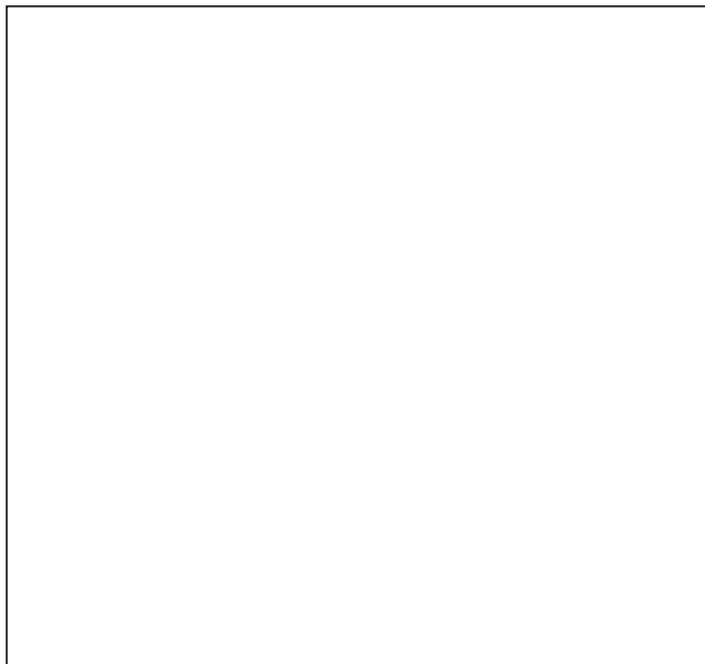


Figure 37_ Hill House a courtyard house typology

⁷ Plain Modern: The Architecture of Brain MacKay-Lyons

500 foot distance the Hill House courtyard is about 70 feet between loggias. The Hill House is a precedent because it also embraces the hill like house no. 22, but does it in a different way. This house and barn hunker down and become the landscape of the hill as opposed to an object on a hill. Two different solutions; to two similar conditions. The major constraint is the windstorms coming from off the coast and hitting this particular hill first. Once again structural bays play a role in spatially defining the courtyard and movement within the outdoor space. Two loggias on either building set up a cross movement into the courtyard, diagonally through it and as a threshold to the views on the other side. A transparent living/dinning room wall faces the entry loggia as well as the courtyard. Essentially the living room extends spatially into the connected outdoor space. A physical connection between the interior spaces and the Two loggias on either building set up a cross movement into the courtyard, diagonally through it and as a threshold to the views on the other side. A transparent living/dinning

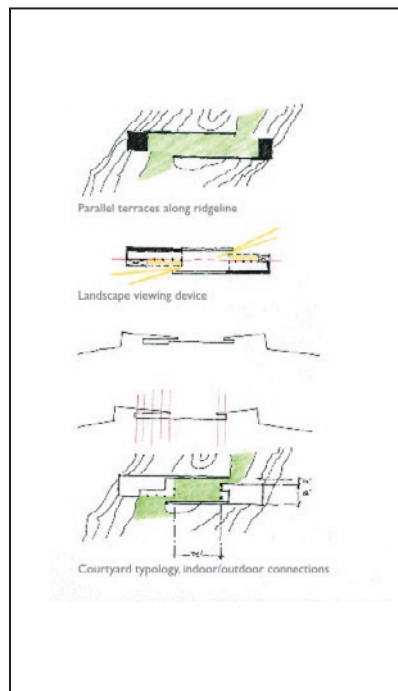


Figure 38_Diagrams of the relationship between buildings and the topology

room wall faces the entry loggia as well as the courtyard. Essentially the living room extends spatially into the connected outdoor space. A physical connection between the interior spaces and the landscape.

Canal House, Austin, TX 2003

*“Lake| Flato does this by creating clear edges with thick walls or covered walkways to mark the transition, or by designing the buildings to serve as filters with breezeways or courts through which people must pass. At the sametime, transitional buildings edit out distracting parts of the environment that disrupt our experience of the natural landscape”*⁸

A transitional building set at the boundary between the urban and rural realms acts as a filter to the structured landscape.

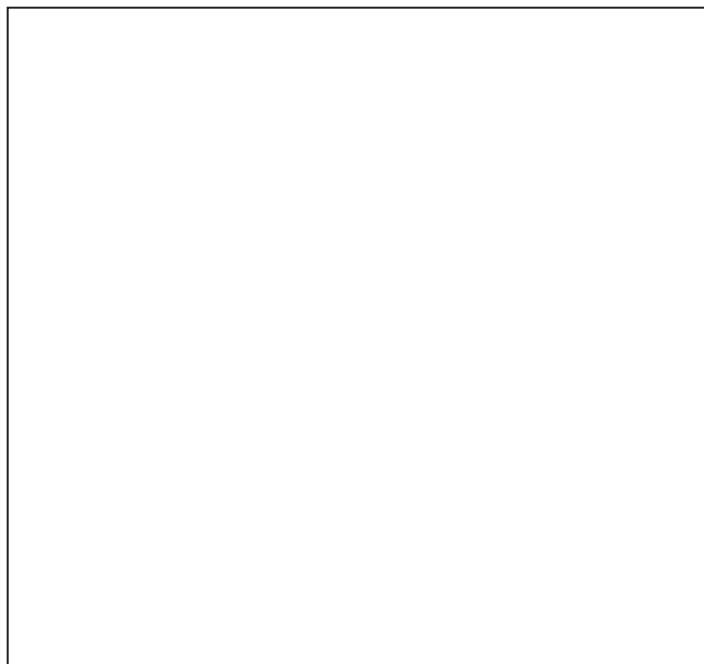


Figure 39_ Canal House views of natural materials used

⁸ Lake|Flato Buildings and Landscapes, pg. 131

Architecture can carefully connect various landscapes such as, natural and built, wet and dry land, or busy roads and countryside. The Canal House as a precedent is comparable through its adjacent site conditions, a river edging one side of the site while on the other, edged by the urban realm. The house addresses concerns with near by neighbors while at the same time engaging the landscape as potential outdoor rooms. These separate structures house smaller parts of the program and were designed as a “village by a canal”, the typological early settlements that usually stood next to water. The ‘village’ entry is created by the studio building forming a wall to the adjacent property, from there a boardwalk extends past a guest house over a water filled courtyard, to the two-story living quarters of the main house. This boardwalk not only creates a strong edge to the water but also is used as a datum and pulls all the parts together as a whole. An indoor corridor parallels the boardwalk linking the living, dining, and kitchen areas. With strategic placement of the small

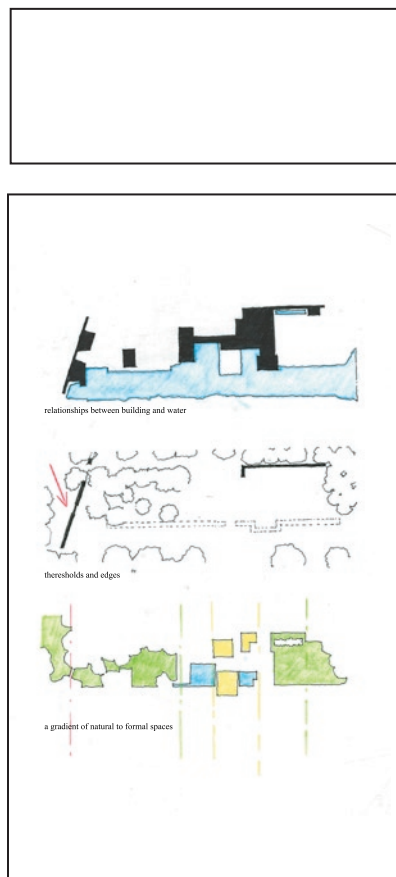


Figure 40_ Diagrams showing different landscape connections

structures they create five various sized courtyards for different uses, maximizing the built environment with the land. Two walls, one at the entry forms a threshold to the landscape and the other wall forms an edge for the main house and the east courtyard. Progressing through the landscape beginning at the front entry there is a gradient of types of courtyards, from a natural free flowing space to formal fully enclosed space. The last courtyard is a combination of both formal and natural, nearest to the house the space is ordered using the house and it's eaves as an edge and elements in the landscape. The pool along the north wall, a small square shed, and the garden of lined trees are the elements that organize the formal west side of the courtyard. Where as the east side gradually gives way to the surrounding tree cover.

Mission Hill Family Estate Winery

The Mission Hill Winery is a 2000 project in British Columbia, Canada is a 120,000 square-foot complex buildings designed to create an experience of the landscape for the visitors. Situated on top of a hill overlooking Lake Okanogan in Westbank. The site allows the visitor to enter the hill through the wine cellars, wander the landscape and climb the bell tower to then look down over the site. The complex covers 11 acres and consists of an expansive program. A clubroom

and pergola forms a wall that provides views through the amphitheater and holds an edge to the entry courtyard on the opposite side. The minimal space includes a wine tasting room, back-of-the-house for the amphitheater and a wine vessel exhibit displaying an ancient Greek and Roman collection of containers associated with drinking, making and storing wine. Below the loggia is a large dining hall for private tasting events and wine cellars cut into the rock. The raw rock walls allow water to seep through and down the rock face maintaining a constant humidity and temperature that the space requires. The visitor center houses the Wine Education Center including a teaching kitchen adjacent to a reception hall with 24-foot tall wooden doors that open up to the landscape and views over the lake. Most important

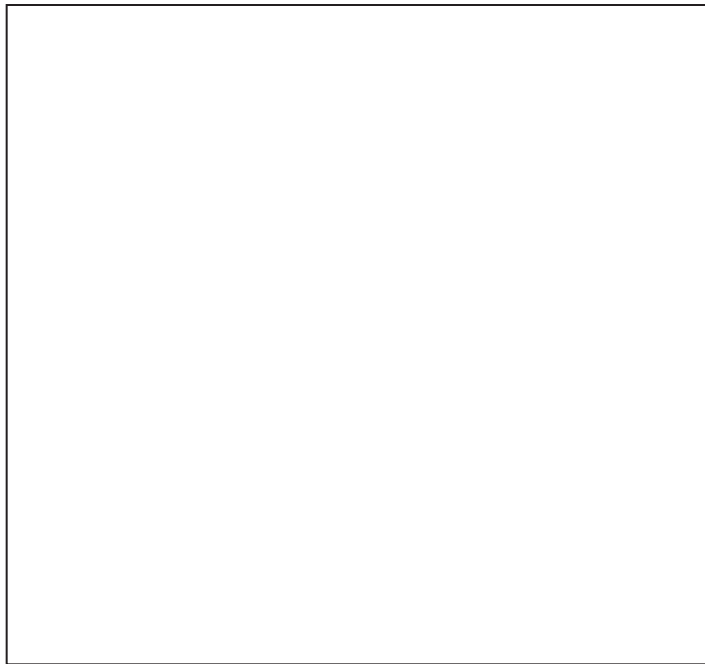


Figure 41_ Views of underground cellar and bell tower

An analysis of three alternative parti's were developed based on the programmatic elements response to the opportunities of the site. The program is divided into two uses for each scheme; the winery and farmers market uses on the site. The winery uses include vineyards, a small producing winery, a tasting room and a one room event building. The farmers market is divided into two small structures allowing for a public outdoor gathering area and a covered space for multiple vendors.

Scheme 1 [Grouped]

A site diagram showing possible building arrangements on the site is shown below. This scheme addresses a major site requirement; separating the wineries truck traffic from the public visitors. The farmers market is located parallel to the historic highway and the city park across the street. This location takes advantage of the public edge created by the historic road, the park and existing bike lanes. The existing trees naturally enclose this area as a defined area and the linear market building creates a threshold for the rest of the site. Opposite the eastern edge of the site is the existing bridge and access point over Beaver Creek. This bridge provides a discrete access road for grapes being trucked in from

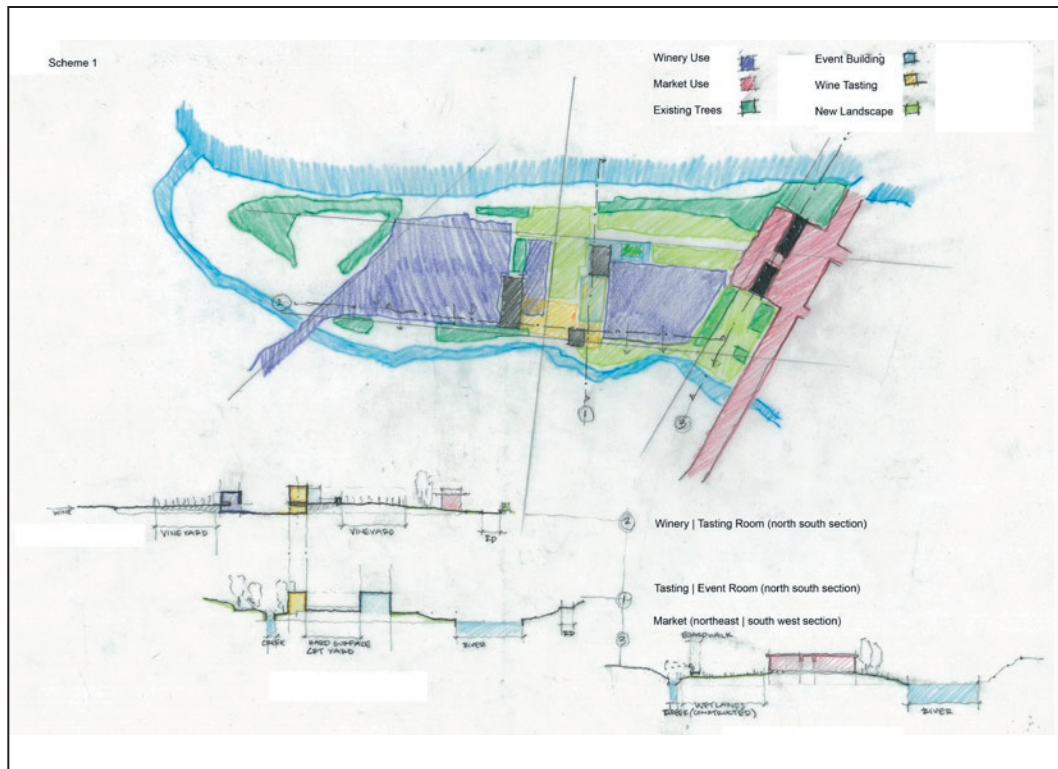


Figure 43_ Grouped scheme site and program diagram

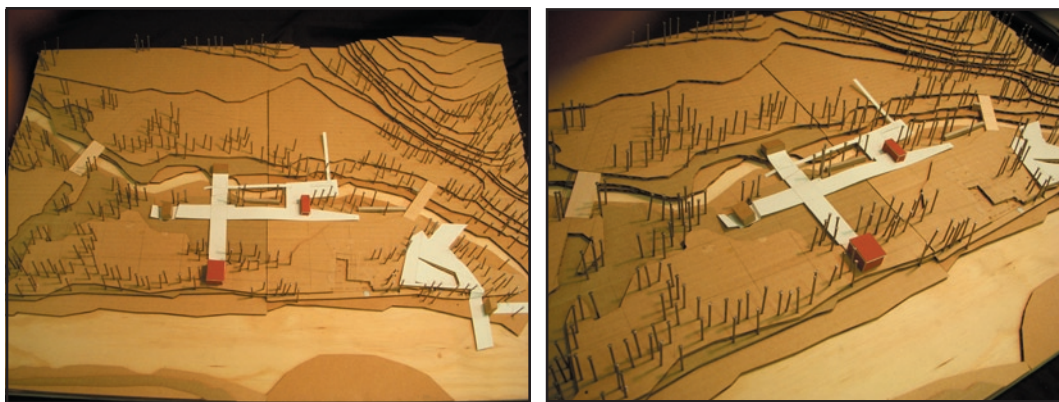


Figure 44_ Massing model arranged on site

provides a discrete access road for grapes being trucked in from around the region and a back entry to the vineyards and winery. After program analysis of the winery two program elements were separated into one room buildings the event/dinning room and the tasting room. The separation of 'rooms' provided an opportunity to study the relationships between structures and the outdoor space formed by these relationships. The space between buildings can be thought of as a outdoor 'living room' connecting three pieces of program. It is important to notice in this parti that the winery buildings are arranged closer to the creek than the rivers edge. The buildings may be located along the creek but views across the site to the river allow for expanded views of the site as a whole instead of specific views of the river.

Scheme 2 [Linear]

This linear parti reinforces the rivers edge with the arrangement of the buildings. Two market structures are situated along the edge of the topography, which has a steep ten foot slope to the river. A boardwalk begins here connecting the two structures and continues on to edge the winery building. However, the winery is opposite the boardwalk, pulled away from the slope and faces the river. The event room is part of the winery building. Arranging the winery on the south side of the boardwalk serves two purposes. One is a functional Requirement that requires grape trucks to drop and pick up goods from the winery and not interfere with the visitors. Second, the building creates a spatial dynamic being opposite the market buildings. The boardwalk eventually terminates at an outdoor amphitheater. A fourth building is introduced in this scheme as a tasting tower and connection stand for the theater. Although, the buildings have a strong connection between them, there is still a weakness in the site plan. There is still a separation between the entrance along the historic highway and the market building. This separation may be to far of a distance for functional reasons. The market is intended to serve as an accessible place to the public a few times a week.

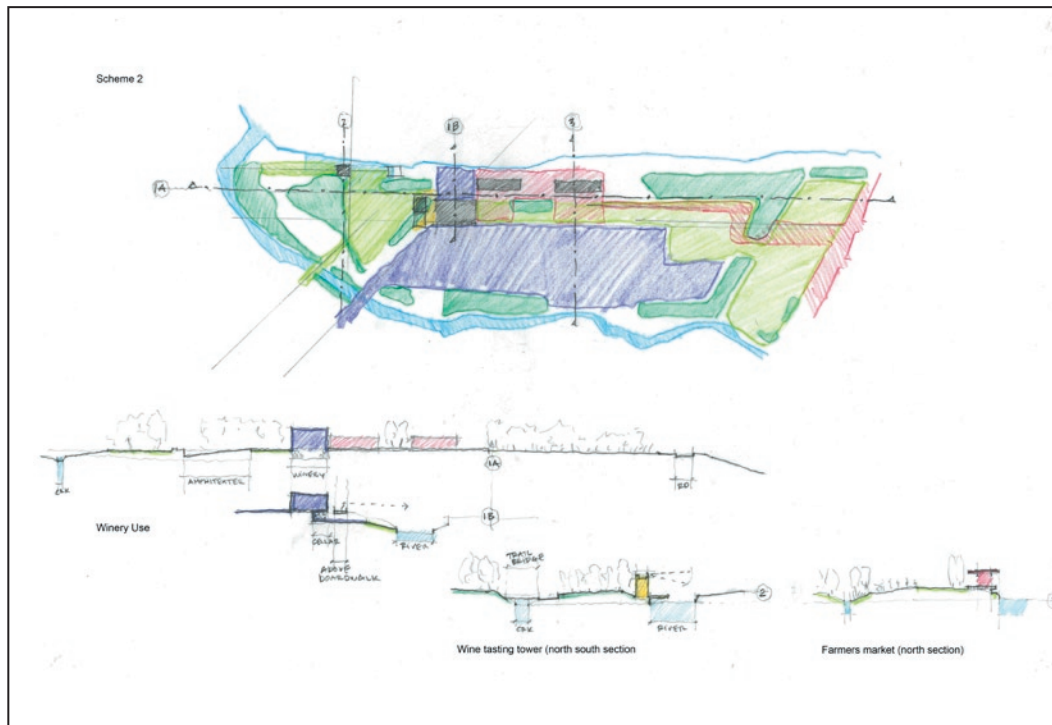


Figure 45_ Linear scheme site and program diagram



Figure 46_ Massing model arranged on site

Scheme 3 [Farm]

Parti three is referred to as the farm scheme because it spreads four buildings across the site capturing a larger amount of land than the other schemes. Growing herbs, that are common to the area, and grapes were intended to play an important role in shaping the spatial connections between buildings. The market location is quite different than other parti's. The access points of the winery and visitors have been switched. Instead, the market is accessed by the bridge entrance at the southwest end of the site. The program here has been separated into four distinct buildings. The market is one structure, the tasting room is across the creek, the event room is at the east end of the site, and the winery is opposite the tasting room but on the north edge of the site. Instead of grouping buildings, the structures are treated as 'outbuildings' much like a farm would place structures at edges and corners of their land to claim property lines. The distance between buildings is a design challenge, but also an opportunity to study how far spatial interactions or connections can be made. How far is too far for a person to experience this spatial connection? This scheme puts an importance to the internal site, but misses opportunities to connect the project with the surrounding public activities.

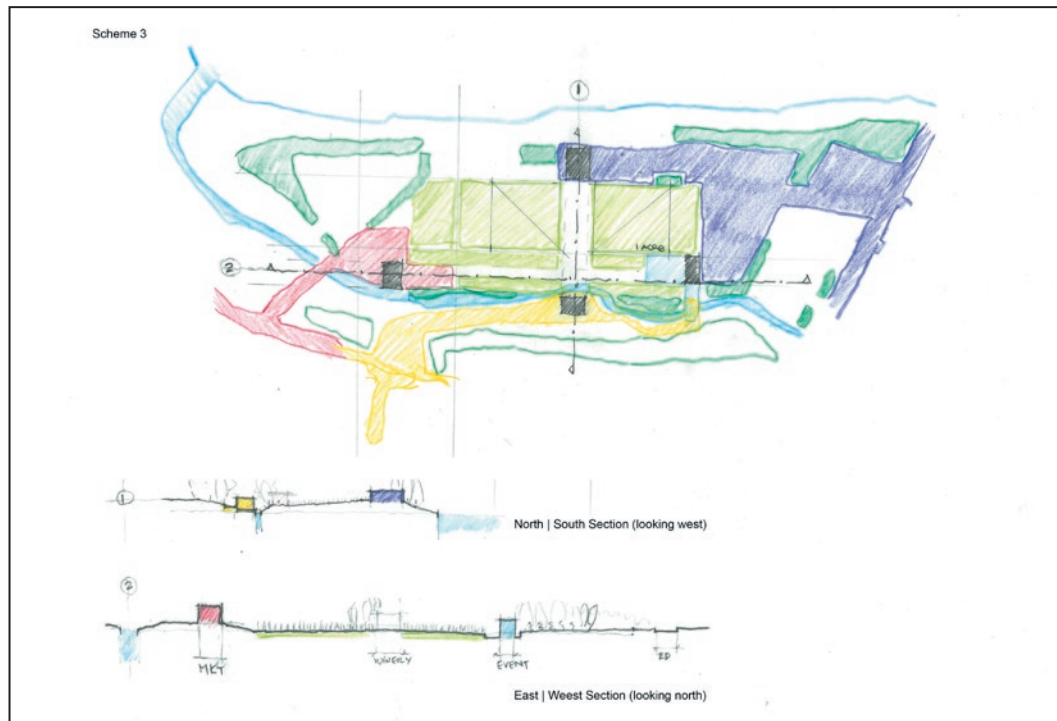


Figure 47_ Farm scheme site and program diagram

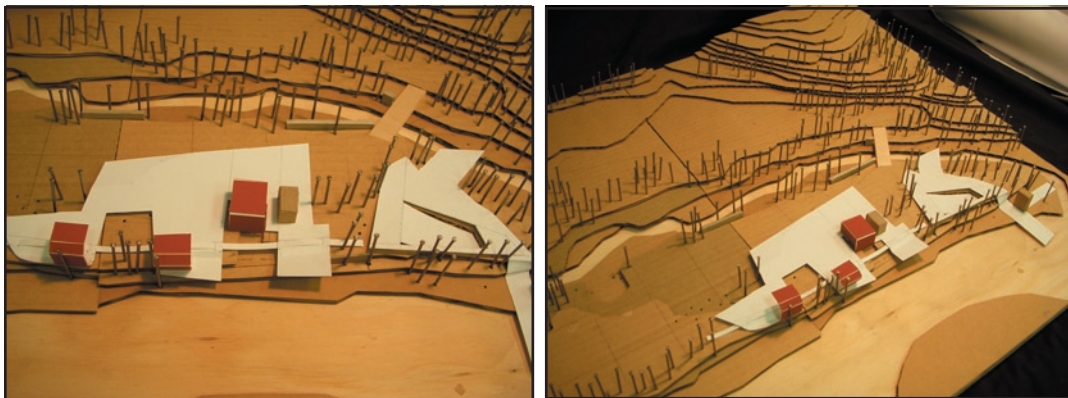


Figure 48_ Massing model arranged on site



Figure 49_ Combined scheme based on analysis of the previous three parti's

Site

As a park system to be modeled after, the 'Connecting Green' is an Oregon initiative taken on by The Trust for Public Land (TPL) and other conservation groups organized by the Earth Share of Oregon. The focus of the 2005 initiative is to provide a green infrastructure that directly benefits the community. "In the next 25 years, the population of the Portland-Vancouver Region will grow by one million people".¹⁰ Due to this population growth Oregonians passed a Metro Open Space bond in 2006 to invest in the rehabilitation of new parks and the preservation of natural areas throughout Oregon.

Three city parks surround the Troutdale site, one on the east edge, one on the west hill, and one across the historic road south of the site. This initiative is particularly relevant when considering the role the site has on the surrounding trails, bike paths, and parks. Currently the trails and bike paths are intermittent throughout the area. The site is centrally located to these trails and the following design concept connects the trails in various areas on the site. Three entry points are possible for the trails; on the eastern edge across from the

¹⁰ http://www.earthshare-organ.org/ourgroups/profiles/tp/newsstory.2008-03-11.1896144696/newsstory_view



Figure 50_ Existing site conditions with buildings removed



Figure 51_ Conceptual site plan

pedestrian bridge, on the southern edge of the creek, and the western edge connecting main street to the amphitheater. Connecting these community trails would allow the trail system to be continuous and benefit the site by linking the public areas to the public not only by car but pedestrians. The farmers market and amphitheater along the river being the most public spaces.

Site to Landscape

The typology of farms was an important concept to the arrangement of buildings on the site. Farms typically consist of a few structures that each have a specific function. These structures are either spread out on the site to claim the agricultural land or grouped together to create a protected place within the larger landscape. This idea of grouped buildings verses out-buildings that mark the landscape is an important design tool. Grouped buildings create a 'place' with enclosure while also extending of views beyond the space. Out-buildings, however, have a different function of defining edges, re-centering spaces within the site and creating spatial relationships over a greater distance of landscape.

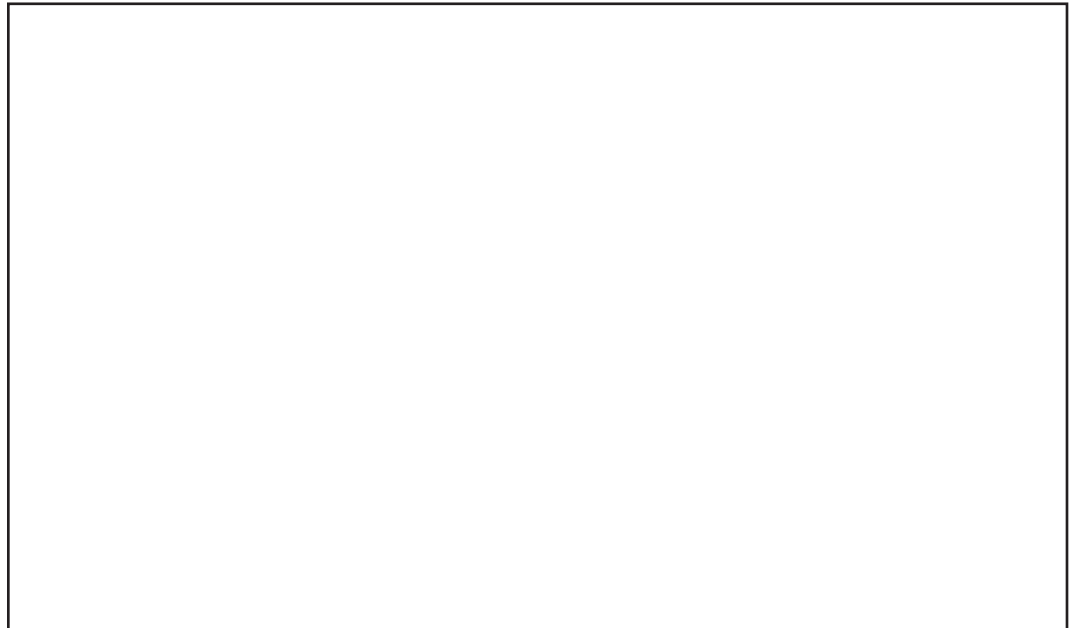


Figure 52_ Diagram of agricultural land defining spaces and building arrangement

Farmers Market

The design concept for the market was based on the idea of place. Place- an area already identified, a particular point on a surface of vineyards. As a method of inquiry, the enclosure of the market, and the extension of views from the market was integrated into the design of the building. The enclosure reinforces the sense of place within a closed volume directing attention to the smells, colors and tangible objects of the market. While extended views give an awareness of being in a larger landscape. The entry views allow the visitor to see past the market to the winery and the tower in the distance. Initial analysis identified the eastern edge adjacent to the historic highway as the public entry and the location of the farmers market. As a summer, fall and spring market to be open a few days a week, frequent accessibility is necessary for the community.

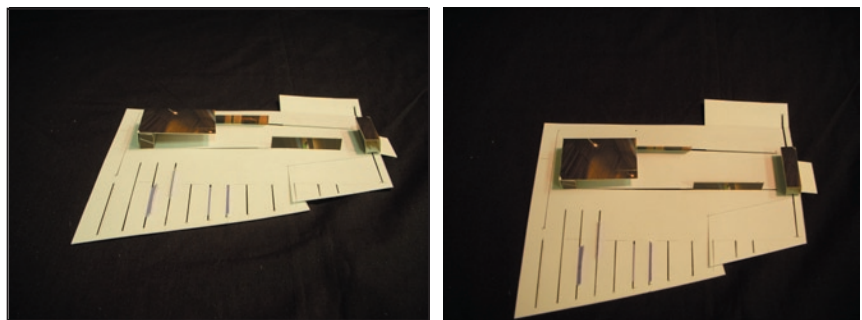


Figure 53_ Study models: horizontal roofs, low retaining walls, and small sheds that bookend each market building could slide within the constraints of the model and explore the enclosure and extension of space.

Figure 54_ Market concept showing the relationship to the larger landscape

Winery [tasting and events]

The winery has an unique program arrangement. A winery is typically made up of a sequences of spaces dedicated for the production of wine, a tasting room and a upper level for visitors to see the wine making process. However, typical wineries of the Oregon region began as just barns producing wine, but as the visitors to the small wineries grew it was necessary for a tasting bar and maybe a dinning area for special groups. Because of the intimate nature of the wine community the 'event rooms' are for invited chefs to offer a selected group of people for a wine pairing. Pairing a dinner with the vineyards wine. Instead of large events being held indoors the event buildings concept was intended for 10 to 20 people maximum in a dinning setting. One side of the building can be opened up during nice weather allowing the visitors to view the vineyards. Large events only take place when the building can be opened to the outside, providing a outdoor space with enough room for serving food. The tasting building is programed much like the dinning building. A one room tasting bar with one side transparent to the landscape. Designing these two buildings to work in unison as an indoor outdoor spatial experience was the intended concept.

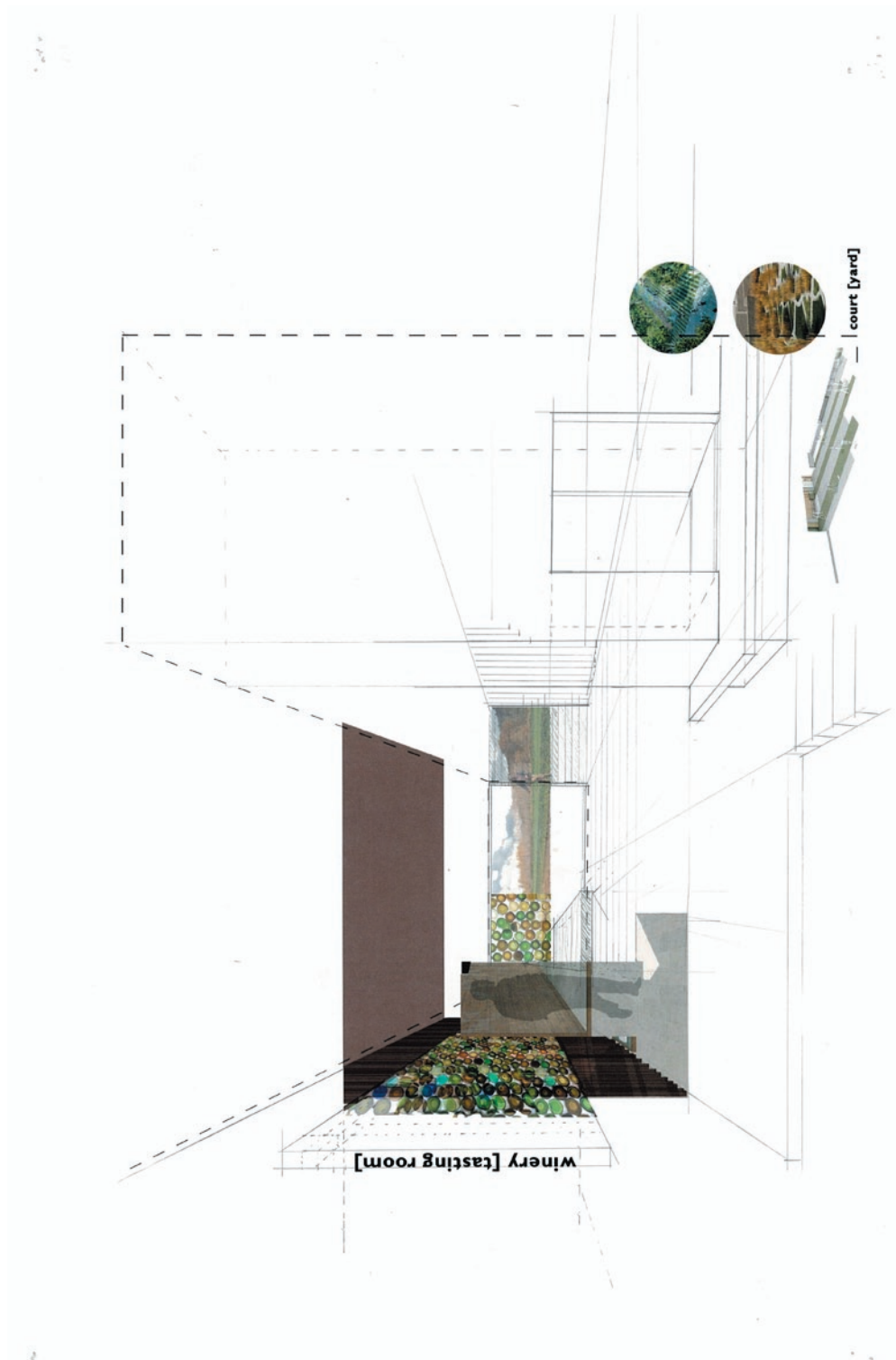


Figure 55_ Tasting room concept showing the framed views across the site

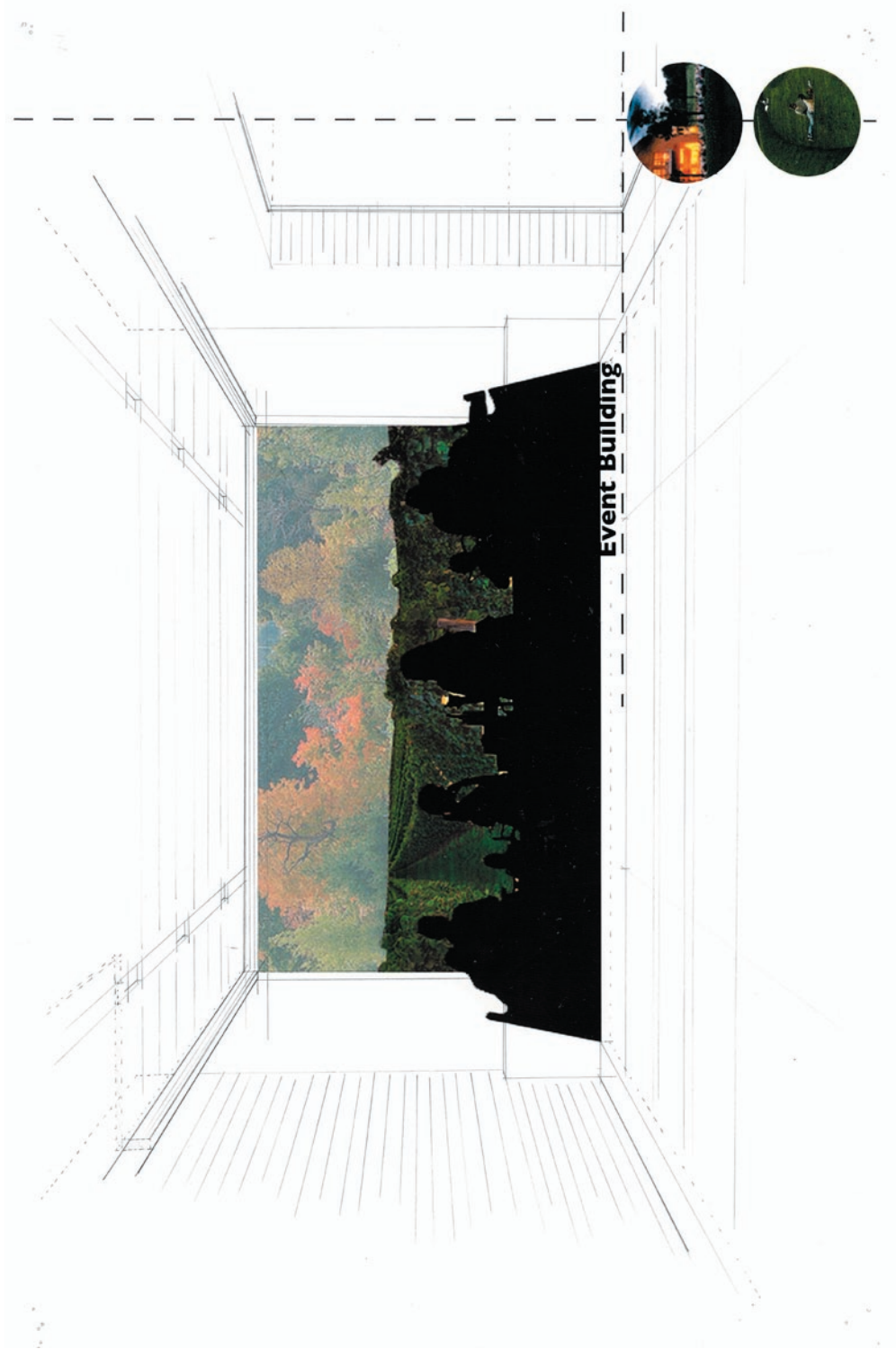


Figure 56_ Event room concept with framed views of vineyards

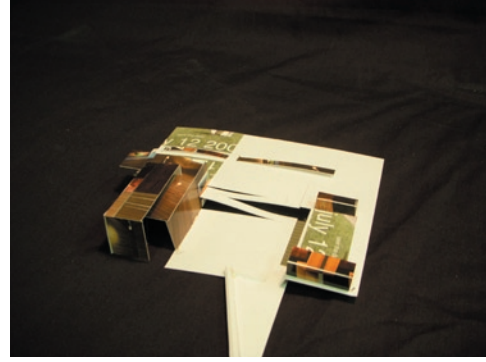
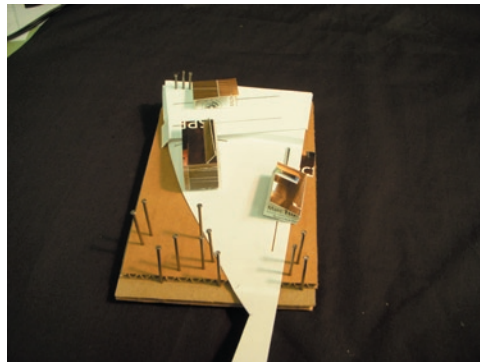


Figure 57_ Study models: Exploring three buildings, winery, event, and tasting building, and their relationship to one another. Moving one building in the cluster effects the spatial interaction with the landscape and other built elements

Path and Amphitheater

Unlike the community trails that surround the site the concept of the path is internal to the site and is the connector or datum between buildings. The amphitheater is the end point along this path. The ground plane is an important concept to the path and the amphitheater. Changes in wood patterns, vegetation textures and raised or depressed ground planes create slight differences in spatial conditions. The amphitheater terraces are created by several reseeding surfaces.



Figure 58_ Sections of specific areas along the path

Site [Clusters]

This large 33 acre site of Troutdale, Oregon is divided into three main clusters; a farmers market and community entry, winery [tasting and event room] and the amphitheater and viewing tower. The program is divided into separate clusters made up of separate buildings. Similar to the farm typology, small buildings with specific functions are spread throughout the site to contain pieces of land or inhabitable spaces within the landscape, or in this case vineyards. The market, winery and viewing tower were chosen to be separated for this study because of various scales of spaces, users, and different recreational purposes.

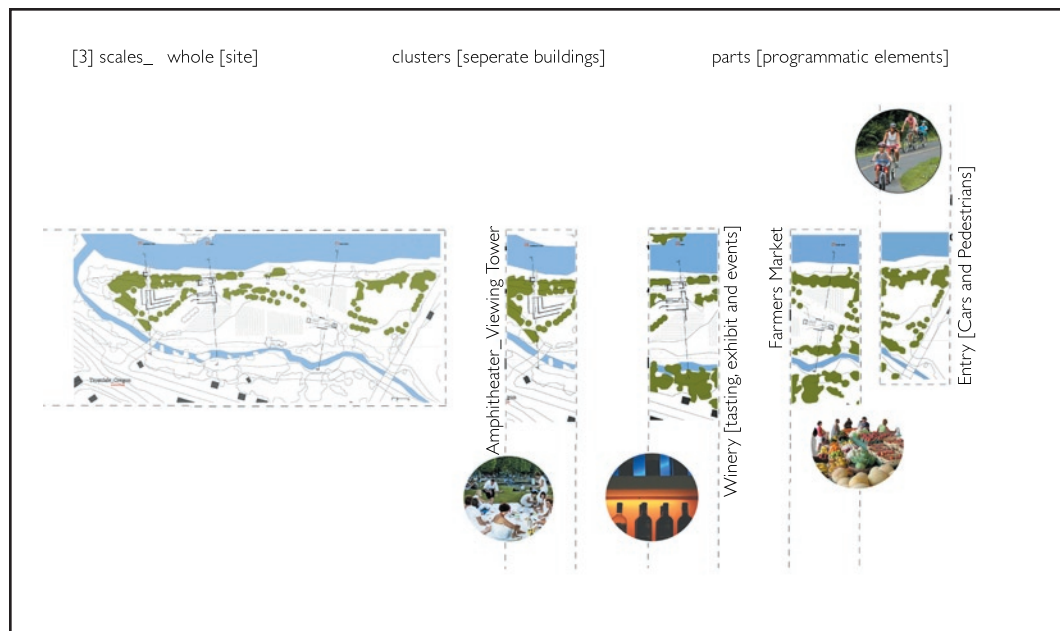


Figure 59_ Site diagram showing the three clusters of buildings, market, winery and amphitheater



Figure 60_ Final site proposal

Farmers Market

The market, of a grouping of two structures, have one function between the buildings. Eventually the building is pulled apart into two halves connected by a grass courtyard. Like a courtyard house the two halves are spatially one building, but is connected by an outdoor room. Each open air building consists of a horizontal roof over a wood deck bookended by a shed. One shed is storage and the other is bathroom facilities. The market cluster is placed within the middle of the landscape with no direct reference to the river. Instead the space relates to the edge of the vineyards, place within the texture of the agricultural land. Study models experimented with the distance and arrangement of the two structures in relation to one another. For example, rotating one of the structures creates a sense of expansion. A sense of being within the market building picking fruit while at the same time viewing the larger surrounding landscape. Slight shifts in low retaining walls or overhangs provides enclosure, but also suggests movement through both spaces. For example, one building is offset from the second which defines a entry space. The entry is further defined by a low wall to sit on, creating a gathering area next to and between the two markets. Under the overhangs are two rows of columns, one defining the vendors space and the second for movement.

While observing farmers markets two types of movements became apparent, gathering but moving slowly along the vendors and walking at a window shopping pace. The 10-foot bays of columns provide for these two movement types. Although the spaces are not physically separated, spatially they are defined by the columns.

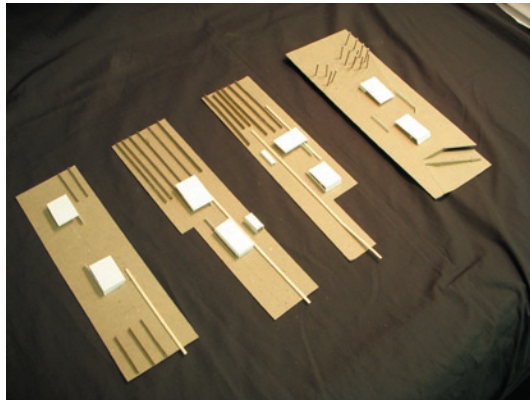
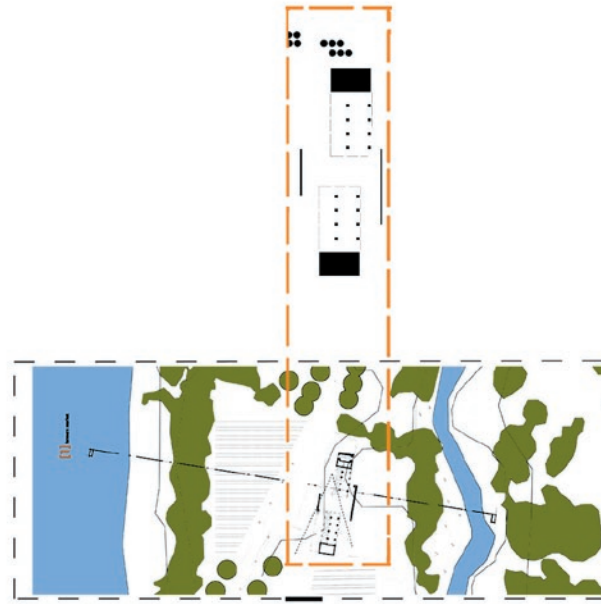


Figure 61_ Study models of market buildings

Farmers Market



- 1 Splitting one structure into two horizontal overhangs creates an expansion of views to the larger landscape.
- 2 A slight shift in overhangs and low walls provide enclosure but suggests movement through both spaces.
- 3 Two low retaining walls and a horizontal plane enclose a space within the landscape. The space provides a protected gathering place.

[Enclosure vs. Expansion]



Figure 62_ Perspective diagrams of market enclosure

Farmers Market to Winery



[Views]

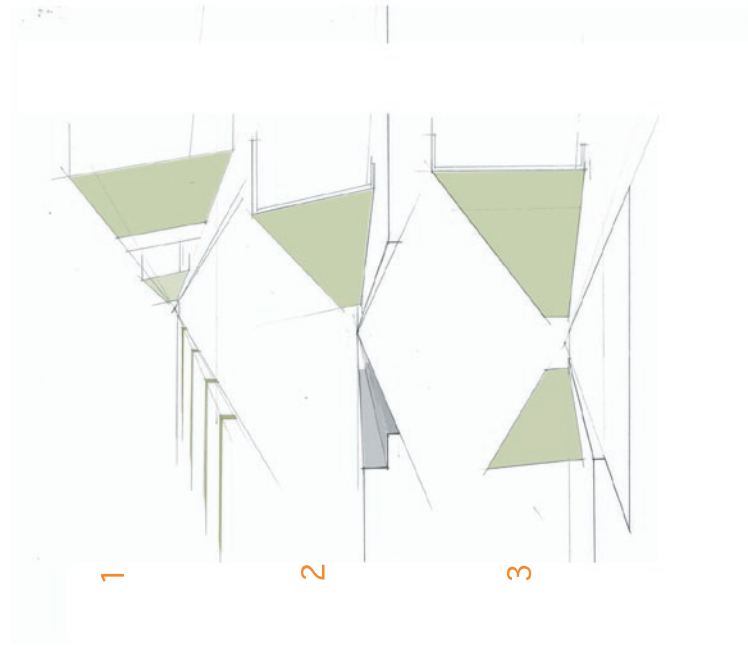


Figure 63_Perspective diagrams showing views from market to winery



Figure 64_ East- West Market Section (looking west)

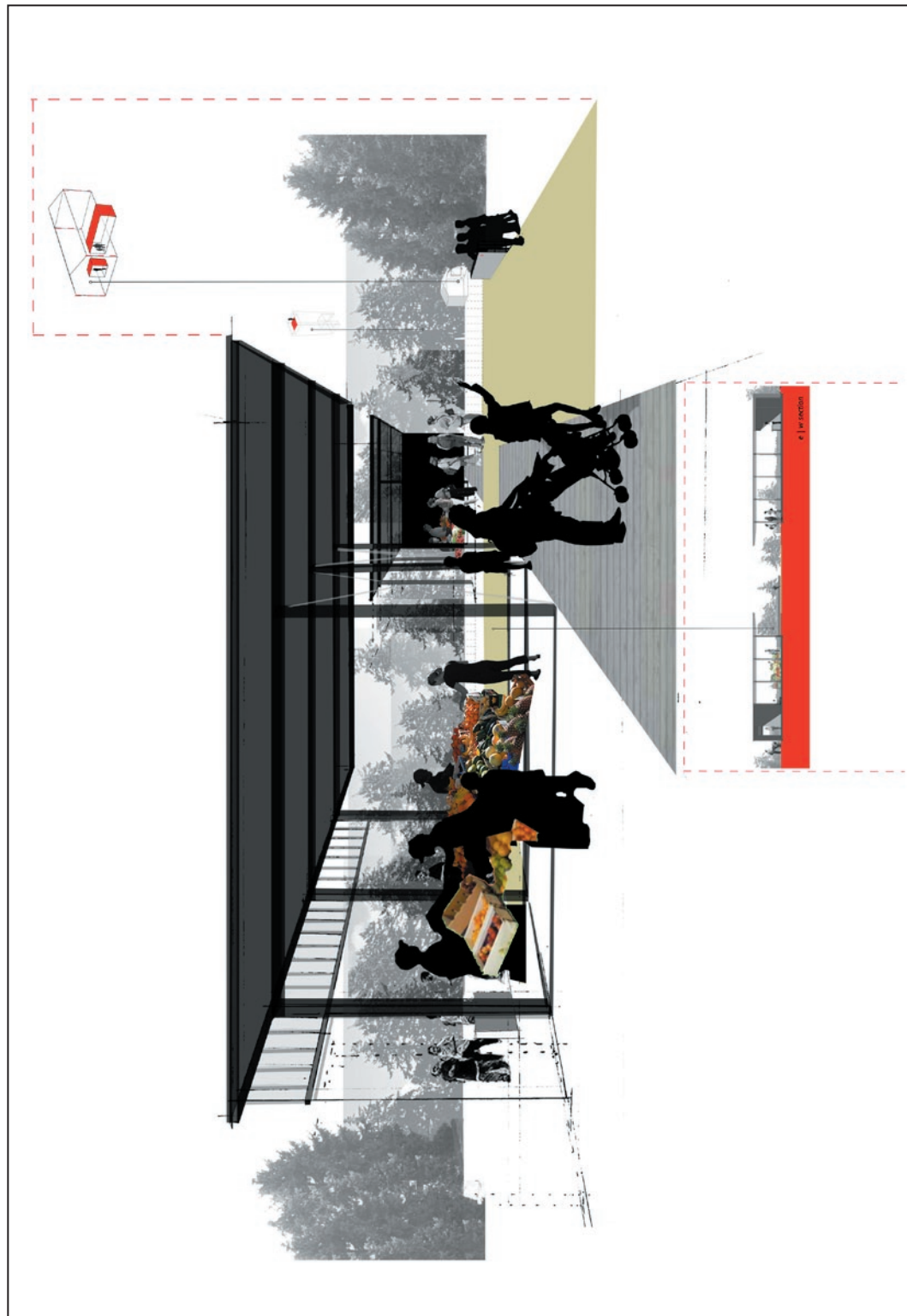


Figure 65_ Section Perspective (view from the east half of market building)



Figure 66_ View looking at market vendors (east end of building)

Winery [tasting and event buildings]

The winery cluster, a small grouping of three buildings, consists of the production facilities and wine-making exhibit, the tasting building, and small event or dining building. Although, the tasting and event structures are separate from the main winery, they are only one room each and work in unison with the winery. The cluster is arranged as if it were one building, but the connecting 'room' is an outdoor courtyard. First, the main winery facility is a one story building with a sub-floor cellar and bottling area. The ground floor serves as a visitor space overlooking the wine production. An entry exhibit serves as both the main public entrance and a exhibit explaining the wine process. This exhibit space is adjacent to the primary outdoor courtyard, creating an 'L' shaped building and enclosing the outdoor space. The two separate buildings, the tasting and event 'rooms', are pulled away from the winery building creating a second outdoor space. During the summer and fall months this grass terrace is an extension of both the tasting room and the dining room. In the winter the open space between the rooms allows views to the river, framed by each room's one transparent wall. As opposed to small window openings in the wall that would not connect the viewer to the landscape. Transparent connection gives the sense of being apart of the landscape rather than a passive experience. Study models ex-

plored movement through a primary and secondary space. A visual axis is defined by the edges of the tasting room and event building. However, the visual axis is interrupted by shifting the tasting room into the primary courtyard. The tasting room entry is on axis with the viewer allowing a visual connection through the space and into the space.

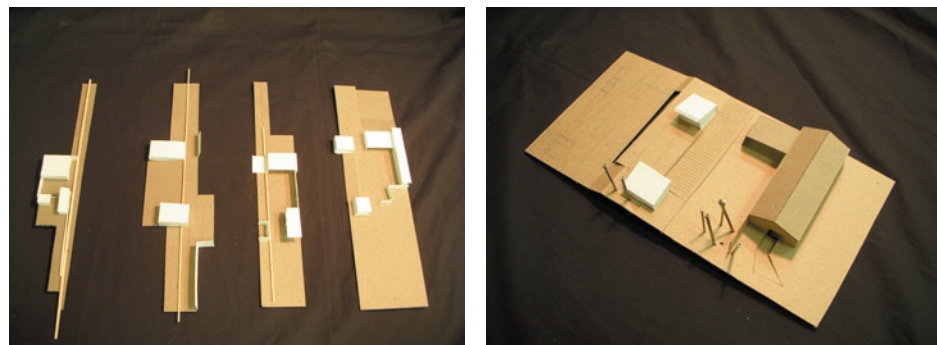


Figure 67_ Study models showing tasting, events and winery buildings

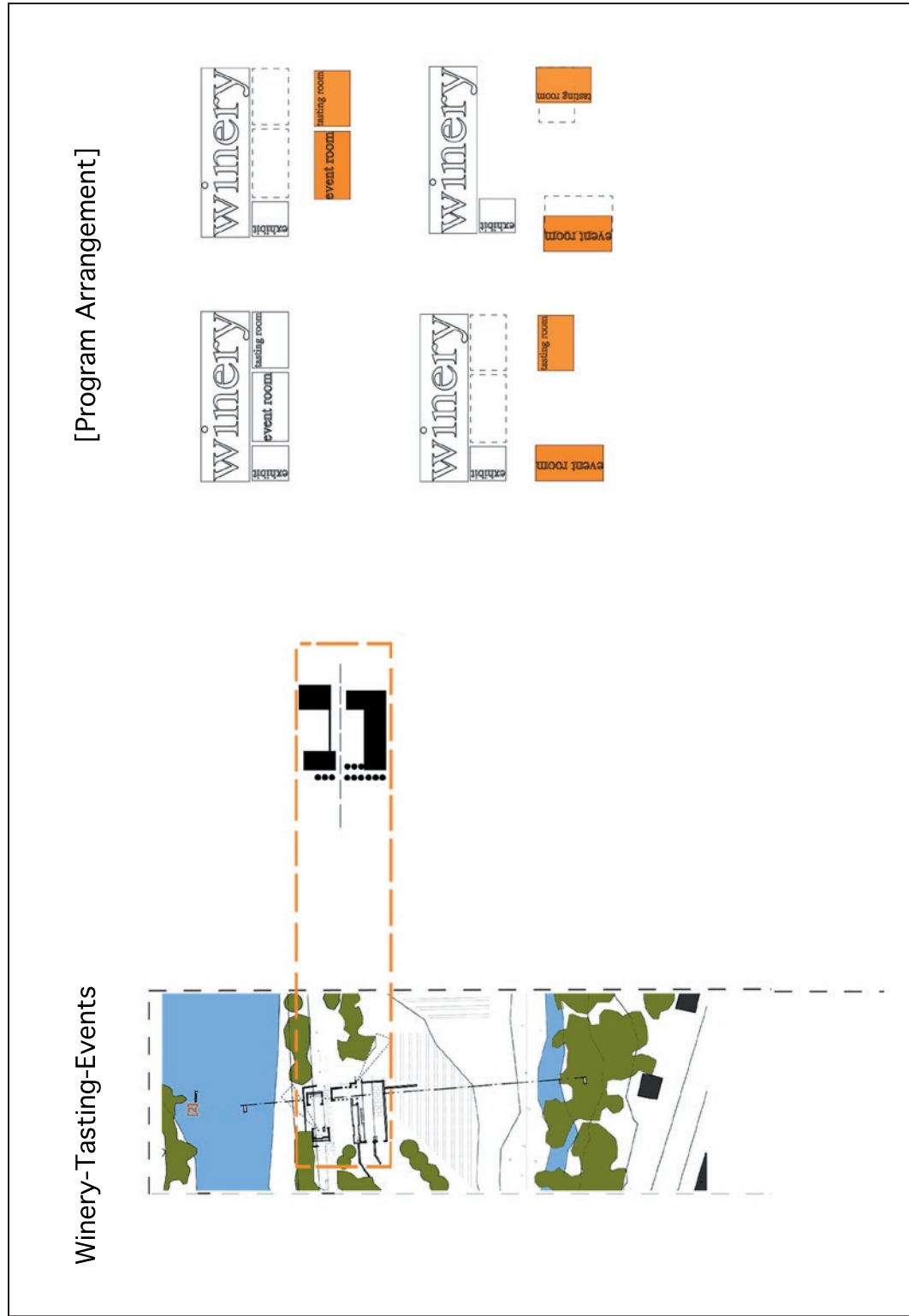


Figure 68_ Program arrangement of winery cluster

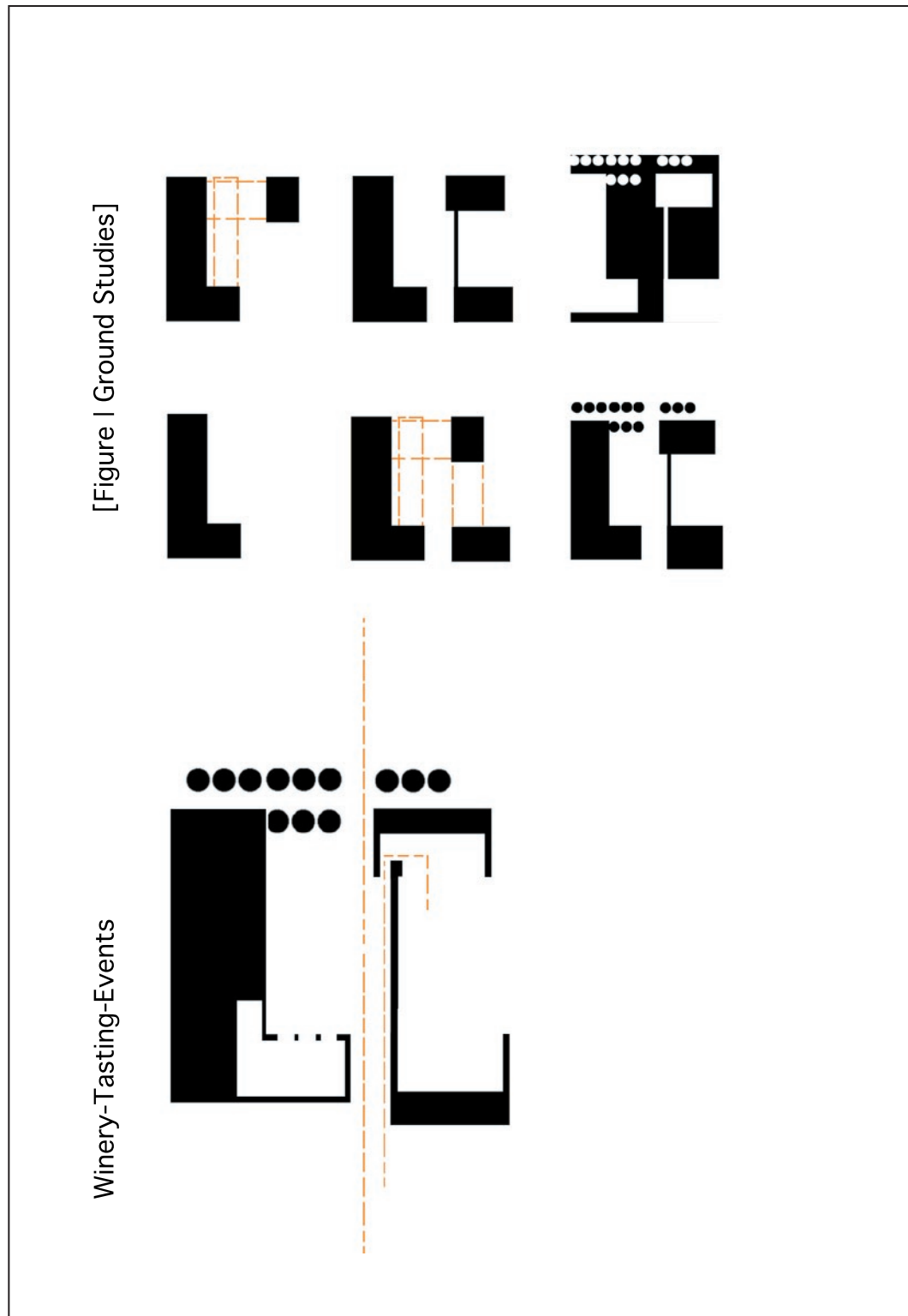


Figure 69_ Noli Diagram of Winery Cluster

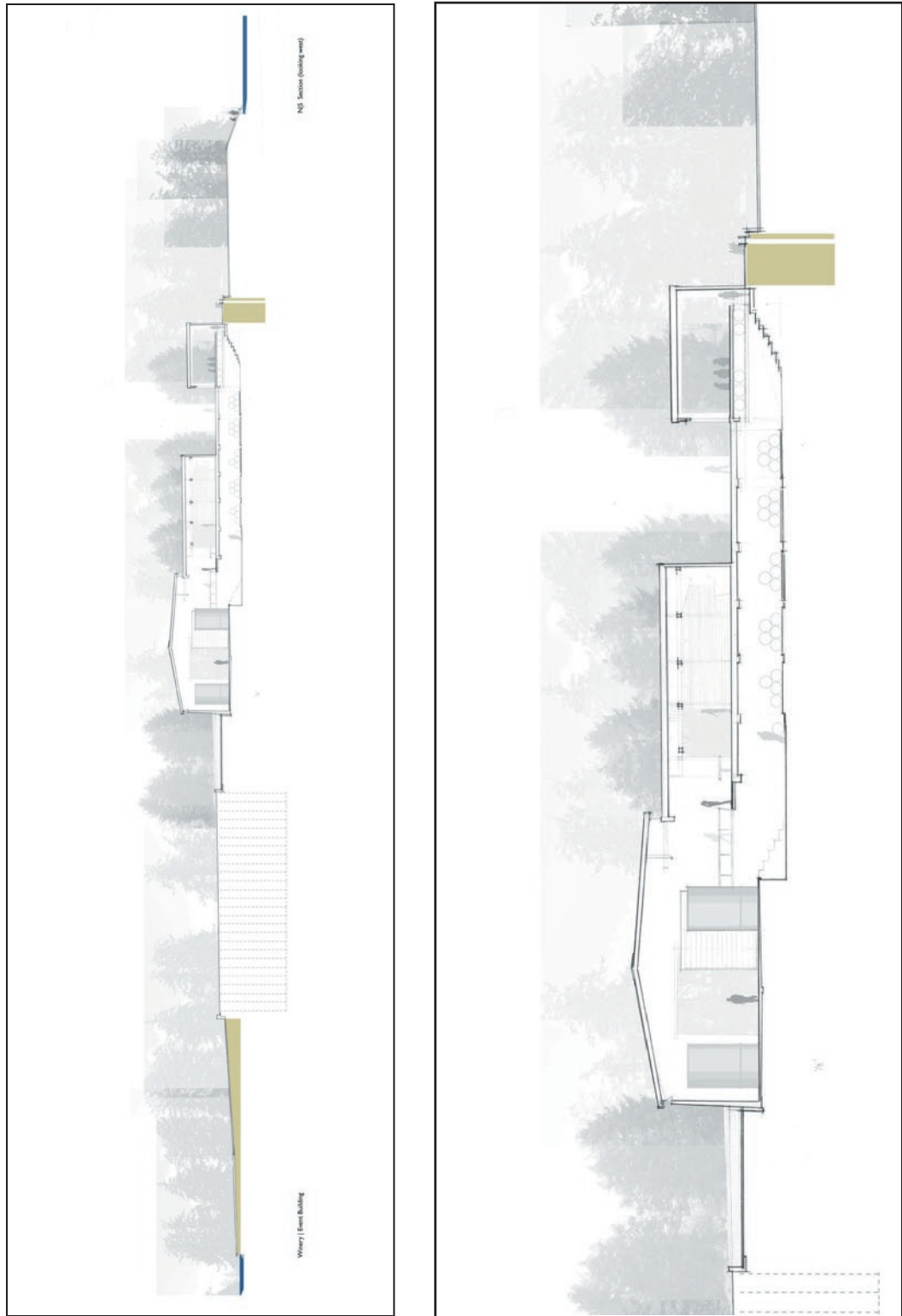


Figure 70_ North-South Winery and Event Building Section (looking west)

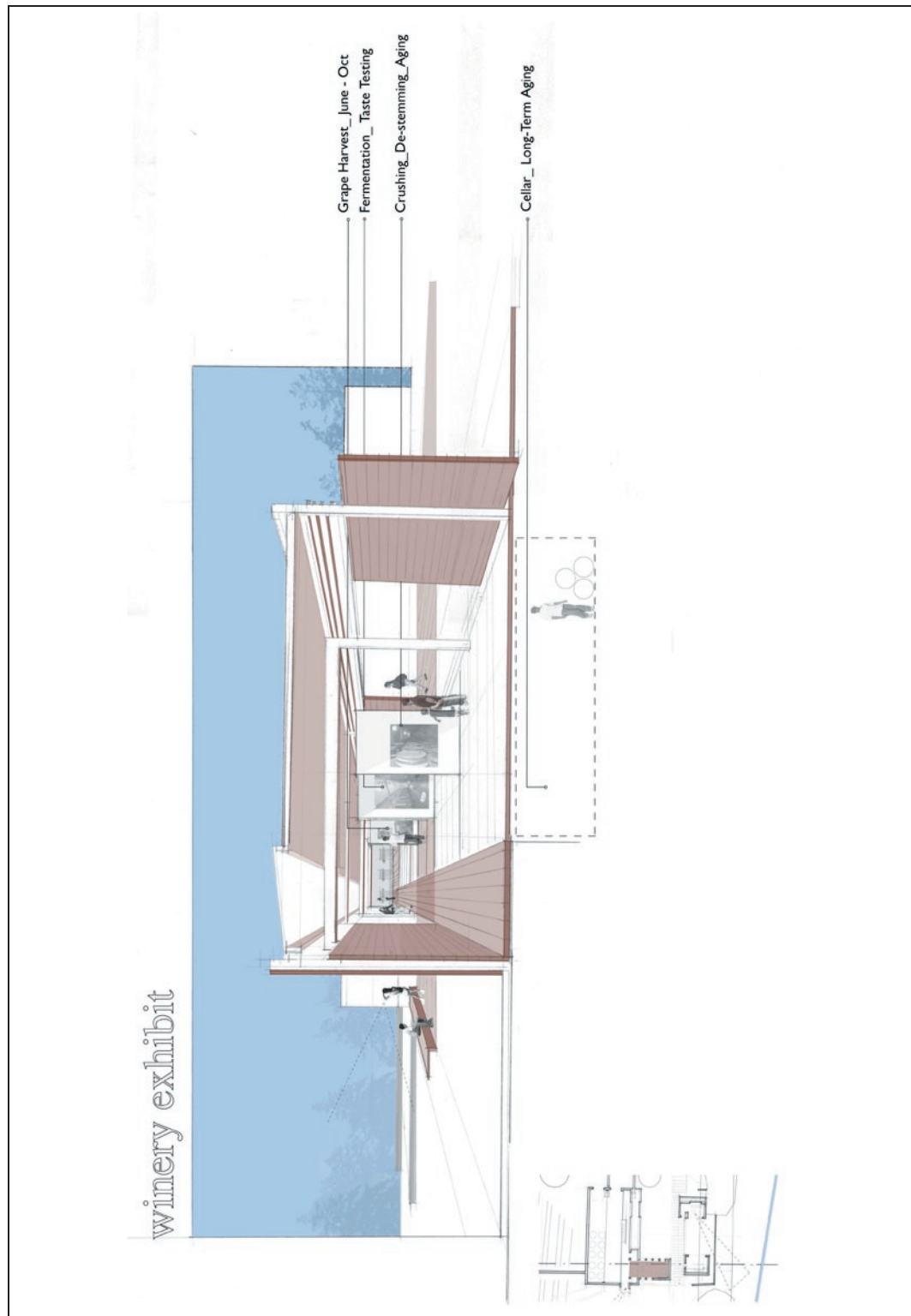


Figure 71_Section perspective showing winery entry and wine exhibit



Figure 72_ Section perspective of the spatial relationship between the tasting room and the event room

Amphitheater

Similar to the courtyards of the winery cluster the amphitheater is designed as a room in the landscape. But instead of being formed by building edges this room is formed by a natural enclosure of trees. The enclosure of trees were an existing condition, presenting an outdoor space. This natural condition provided an opportunity to transform the space into an amphitheater. Using the ground plane as the method of design, spaces were created by depressed terraces. For example, each lowered ground plane created a space, but the terraces together formed a whole spatial experience. The boardwalk that begins in the winery cluster extends along the edge of the amphitheater terraces connecting the two clusters. The datum of the boardwalk is an edge for both the tree line and for the terraces. The materials and various surfaces are defining the spaces opposed to built objects separating spaces. The ground surfaces change depending on the use of the larger space. For instance, the direction of the wood boards along the walkway transition into the grass terraces.

Viewing Tower

The tower is placed in reference to the rivers edge, the tree line, and the change in the topography. These three natural edges determined the design of the tower. The tower is set back into the hill parallel to the river with the dock extending to perpendicular to the river. The lower level of the tower provides a sheltered room adjacent to the dock leading out over the river. While ascending the tower glimpses of the river and the wall of trees through the gaps in the vertical siding. The green of the trees and the blue of the river orients the visitor while in the tower. The top floor is open to the sky with a side opening framing views to the river. These views give a sense of place along the river. As opposed to an enclosed tower that the viewer could not see the relationship between the tower, rivers edge and the tree edge.

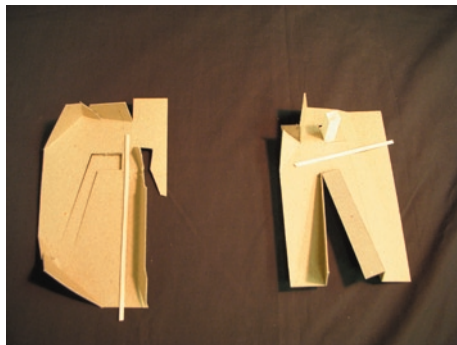
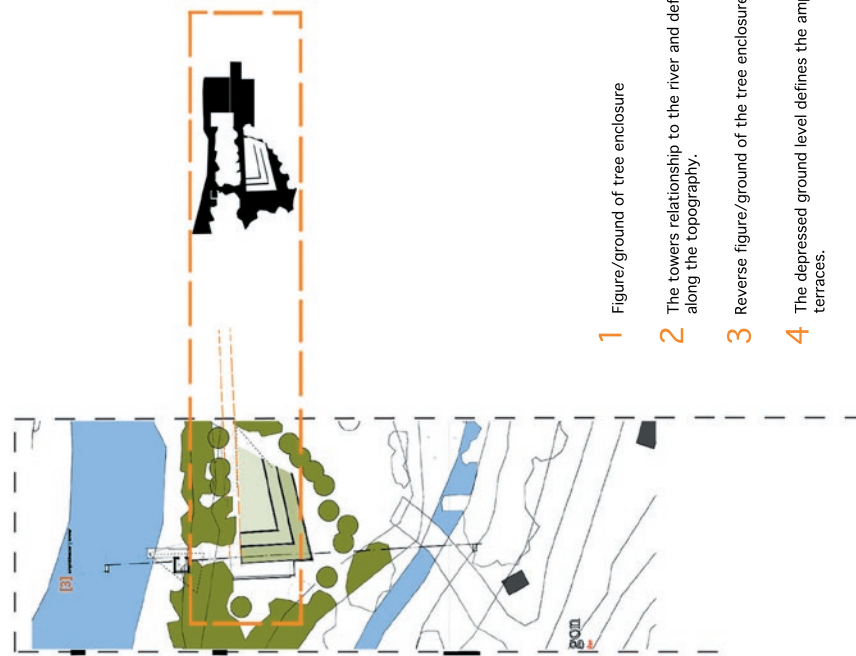


Figure 73_ Amphitheater and viewing tower study model's

Amphitheater-Viewing Tower



[Figure | Ground Study]



- 1 Figure/ground of tree enclosure
- 2 The towers relationship to the river and defining an edge along the topography.
- 3 Reverse figure/ground of the tree enclosure.
- 4 The depressed ground level defines the amphitheater terraces.

Figure 74_Figure ground diagrams showing the tree enclosure and rivers edge



Figure 75_ North-south tower and amphitheater section (looking west)



Figure 76_ Perspective from end of dock looking back towards the tower

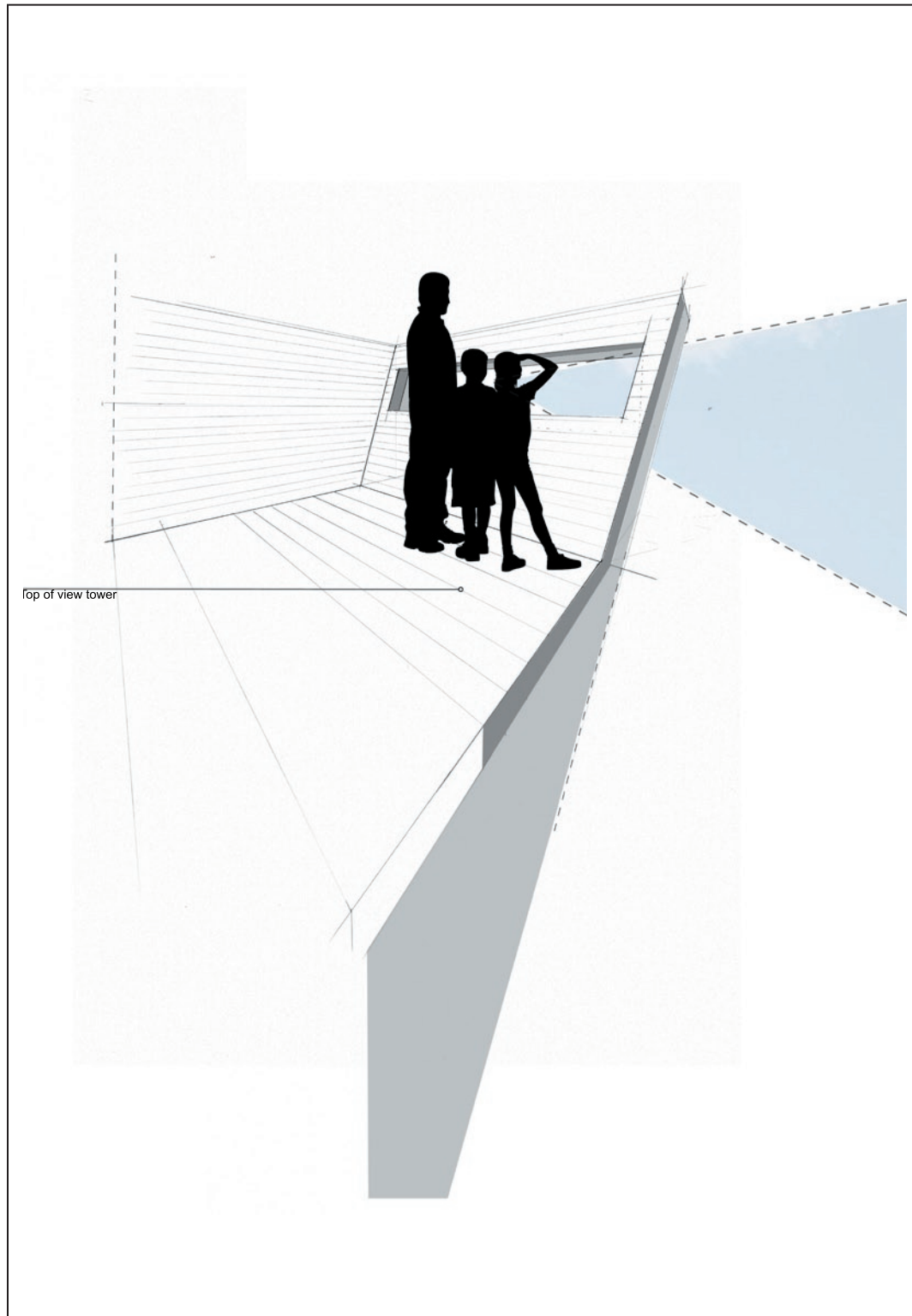


Figure 77_ View looking at the sandy river from the top floor of the tower

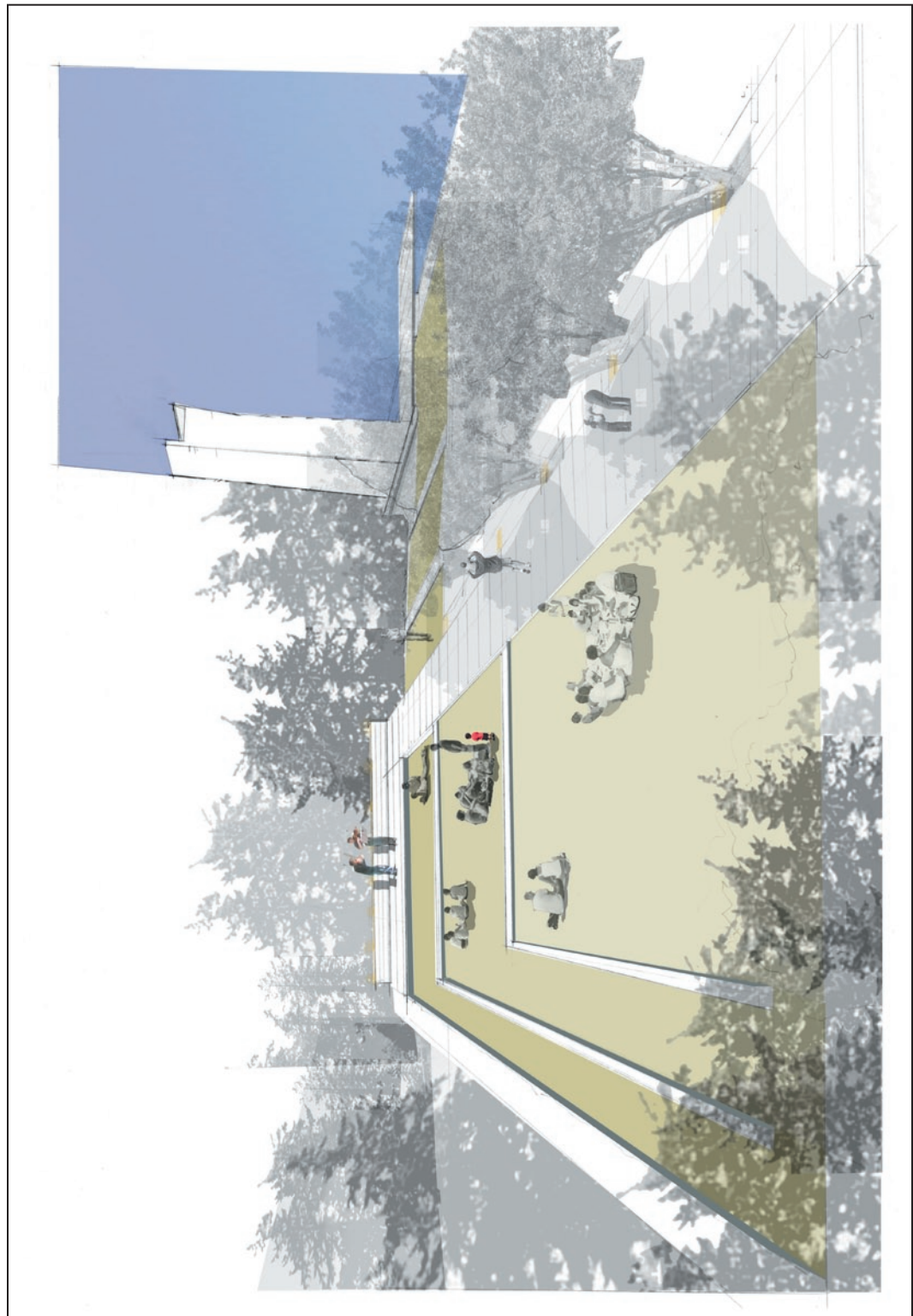


Figure 78_ Perspective showing the terraces of the amphitheater and the tower beyond the tree cover

Troutdale [A Transion Between Town and Landscape]

Cliff Moughtin describes what he calls a closed-system as, a larger system of activities where inputs from one action, becomes inputs for another. He goes on to describe having a balance of individual parts to the needs of the whole, the community or open space in a town. Kevin Lynch calls this the city form of an organism.¹¹ This idea of inputs and outputs staying in balance is an important element for Portland Oregon and ultimately the surrounding area that includes Troutdale.

Troutdale is a small town that grew around a rehabilitated main street, located 15 miles outside Portland's growth boundary line. The close proximity to both a suburban boundary and open agriculture land of the Columbia Gorge, provides a unique opportunity; An opportunity to create a connection between the urban and the rural landscape. As a growing commuter town Troutdale should not be developed as a suburb, there should be a consideration for the balance between agriculture and ex-urban life. Brian Mac-Lyon's be-

¹¹ Urban Design: Method and Technique

believes this is “a critical role, particularly at moments of significant cultural and social transition”.¹²

A winery and farmers market sited adjacent to the main street and along the Historic Columbia Highway provided a means to study this transition. A farmers market allows farmers in the region to sell goods to the public, and a small winery bringing grapes on site to produce and sell as wine. Trail and bike paths used by both the visitor and the locals connect the site to the town. All these systems of the cultural landscape play a role in the total balance of the town and the region. The open landscape of the site is just a part to the whole, which is urban life. Like the clusters of small buildings on the site, these ‘parts’ all have various scales to them in order for the whole to be achieved.

Study [How Buildings Contain the Landscape]

As a method of inquiry, this thesis study challenged the ideas of spatial interaction and overlap created between buildings. An understanding of ‘visual forces’, the spatial experience one has but is not necessarily aware of, will continue to be an integral part of designing buildings in the landscape. Many opportunities were presented throughout this thesis and only some were pursued within the constraints of the project. However, a beginning understanding of the questions and line

¹² Ghost 10 Concept, Brian Mackay-Lyons

of inquiry were tested and studied. This thesis provided insight for future explorations of spatial relationships.

In final iterations of the design three clusters of buildings were developed for their specific relationships to each other and the landscape. A farmers market, a winery, amphitheater, and a viewing tower were chosen for this study for three main reasons, their various size, users, and different recreational purposes. However, there are further opportunities for the entry to be a fourth cluster and structural details of each building to inform spatial developments. The public entry point along the historic highway is located at an important threshold to both the main street of Troutdale and the site. Currently the entry is formed by an enclosure of trees separating

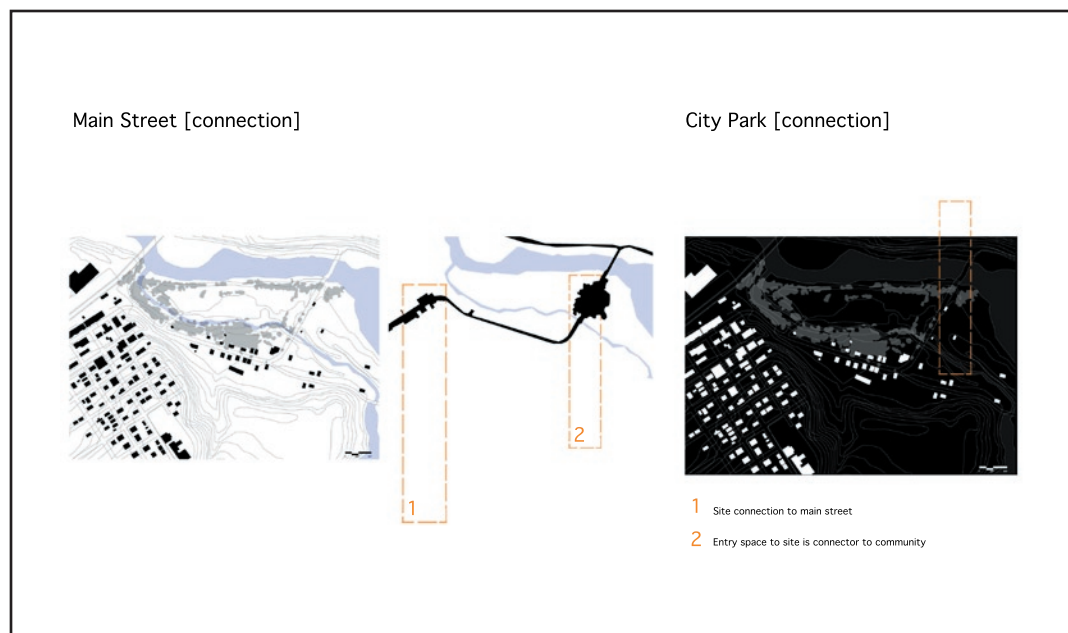


Figure 79_ Diagram: Entry cluster as connector to the community

ating the parking from the market entry and the street. Instead of hiding the parking from the rest of the site could the space be used for other activities? The entry space adjacency to the city park across the street provides an opportunity for a connection of activities. Troutdale's future plan identifies this area as a 'new neighborhood center' for the surrounding area. Future mixed use development along this portion of the historic highway will create opportunities for the winery and farmers market site. Especially opportunities that would make this entry cluster serve as an important role for the community. Although, this part of Troutdale is a separated extension of the main street center, the continuing growth of the community will serve as an entry and exit point of the eastern edge of the town.

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